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COVER FOCUS

The Top Threats & How To Protect Yourself

What are the biggest threats your small to midsized enterprise faces? And what are the best steps to protect yourself? We talked with experts to find out.

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■ Microsoft says that its newest operating system, **Windows 7**, can decrease the time and money spent on support costs by 20% for each PC in a company page 3

■ According to a report from research firm IDC, about 20% of companies surveyed indicate that **Google Docs** is widely used in their offices page 3

■ Microsoft is calling for changes in the way patents are submitted and approved, including plans for what it is calling **global patent harmonization** page 35

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Waging War With The Web

Battling The Constant Rush Of Sophisticated Web Threats Requires New Strategy & Implementation

by Christian Perry

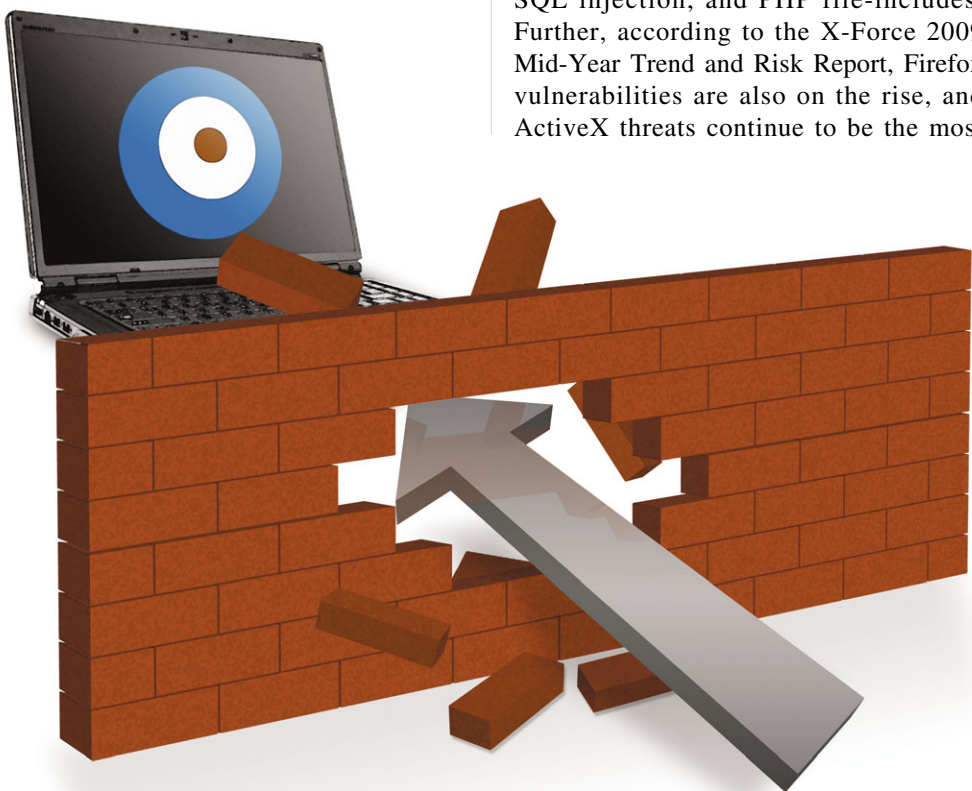
TODAY'S WORLD WIDE WEB bears little resemblance to the Web of 10 years ago. Almost every aspect of modern enterprises touches the Web in one way or another, thanks to communication and productivity innovations that continue to evolve. But evolving alongside those innovations are Web threats, which have reached confounding levels of sophistication and stealth.

“The fundamental shift in Web application vulnerability disclosure began to happen in 2005 and really began to mature in 2006,” says Dan Holden, X-Force product manager for IBM Internet Security

Systems (www.iss.net). “The sheer numbers of vulnerabilities allowed attackers to take a second look and analyze how they were going about spreading their malware and growing their botnets. When you take into account the number of malicious URLs being hosted, the unsecured and universal application that is the Web browser, and then the fact that half of the vulnerabilities disclosed over the last three and a half years are related to Web applications, all of a sudden the Web looks like the Wild West.”

Threat Stampede

Today's biggest Web threats, according to Holden, are XSS (cross-site scripting), SQL injection, and PHP file-includes. Further, according to the X-Force 2009 Mid-Year Trend and Risk Report, Firefox vulnerabilities are also on the rise, and ActiveX threats continue to be the most



Key Points

- Newer variants of Web threats feature high levels of sophistication that can circumvent traditional security methods.
- Employees must be made aware of the dangers inherent in Web use, and enterprises must enforce policies designed to limit certain Web activities.
- Patch management remains a critical piece of the Web security puzzle, but security personnel must not limit updates to only Microsoft products.

exploited client-side vulnerability. The report also notes that the number of new malicious Web links discovered in the first half of 2009 increased a whopping 508% over the same time period in 2008.

Data at rest is particularly vulnerable to Web attacks, says Mike Logan, president of Axis Technology (www.axistechnologyllc.com), because these threats “sniff out” and collect the data. This vulnerability is exacerbated when employees click rogue links they find in emails or on Web sites—including social networking sites such as Facebook—which in turn can open the

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Bring Your Own PC?

Virtualization Gives Employees Their Choice Of System

by Kurt Marko

A GREAT IRONY of the PC revolution is that as relentless technology improvements have enabled manufacturers to offer a dizzying array of product selections, many IT departments still don't afford their employees many choices. As the PC market splinters into ever-narrower niches, enterprise users are often stuck with a frustratingly binary decision: desktop or laptop.

Yet the “consumerization” of IT, in which new technologies first appear in products designed for average consumers before eventually migrating to the enterprise, is rampant in everything from iPhones to netbooks. So why not embrace the wave and let employees use whatever hardware they wish in the office? That's just the vision of BYOPC (bring your own PC) programs being piloted in a number of companies.

In a case study of early BYOPC adopter Citrix Systems, Forrester Principal Analyst Natalie Lambert found that “Accommodating personal user preferences and needs by allowing users to choose their

Key Points

- Virtualization allows companies to obliterate the faint distinction between an employee's work and personal computing environment by turning personal systems into access portals to a company's business applications and managed desktop environments.
- The BYOPC client model gets IT out of the PC hardware procurement and support business, while offering employees more choices of hardware and OS environment.
- Between desktop virtualization and network VPNs, employees' personal systems can be effectively isolated from enterprise servers and storage, while allowing access to required applications and data.

own laptops and OS was top of mind for Citrix.” Although such lofty, user-friendly goals are laudable, IT managers with their jobs on the line keeping infrastructure and applications running smoothly have to be hard-nosed about such nasty details as security, manageability, and support. The magic ingredient that enables seemingly schizophrenic PCs is virtualization, where VDI (virtual desktop infrastructure) is an increasingly popular way to not only decrease support calls and enhance security

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Microsoft Claims Windows 7 Cuts Business Costs

Software giant Microsoft says that its newest operating system, Windows 7, can decrease the time and money spent on support costs by 20% for each PC in a company. In a year’s time, Microsoft says, companies can save between \$70 and \$160 on support costs and up to two hours in support time for each computer running Windows 7. In addition, Microsoft claims that Windows 7’s energy efficiency can save companies \$50 in electricity costs for each Windows 7-loaded machine. It is not clear whether the savings mentioned by Microsoft were determined in comparison to the energy usage or support costs associated with Windows Vista. Windows 7 is set to be released on Oct. 22.

Identity Thief Pleads Guilty

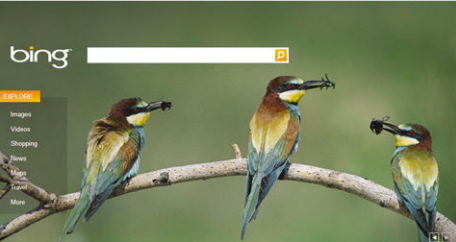
Hacker Albert Gonzalez has pleaded guilty to 19 counts of conspiracy, computer fraud, wire fraud, access device fraud, and aggravated identity theft after being indicted for stealing tens of millions of credit and debit card numbers. A former informant, Gonzalez avoided jail time in the past by helping the Secret Service find other hackers. He continued his illegal behavior, however, and hacked into the computer systems of retail companies TJX, BJ’s Wholesale Club, OfficeMax, Boston Market, Barnes & Noble, and Sports Authority, using “wardrafting” and the installation of sniffer programs to steal information. Under plea deals, Gonzalez will face 15 to 25 years in prison; without the deals, he could have faced several hundred years in prison.

IBM Polls CIOs On Technology Priorities

IBM released the results of its survey of more than 2,500 chief information officers, which found that CIOs overwhelmingly value analytics in their enterprises. To wit, 83% describe analytics and business intelligence as important tools for competition. Other findings of the survey show that 76% of CIOs are planning to virtualize certain operations, more than 50% aim to standardize around money-saving business practices, and 71% plan to make more investments in risk management and compliance. Additionally, respondents generally focused their efforts more on growth and innovation (55%) than on traditional IT tasks (45%).

NEC Absorbs Renesas

NEC Electronics has agreed to acquire Renesas Technology on April 1 of next year. The companies signed a definitive agreement with Renesas shareholders Hitachi and Mitsubishi Electric in mid-September and plan to finalize the deal in the first quarter of 2010. A post-merger stock issue will inject about 200 billion yen (\$2.2 billion) in capital into the new venture, which will manufacture microcontroller units, systems-on-a-chip, and other semiconductors.



Bing Continues To Advance

According to Nielsen’s latest search engine market share report, Microsoft’s Bing managed to improve its standing in August from 9% the previous month to 10.7%, a 22.1% improvement. Introduced in May, Bing is intended to be Microsoft’s Google killer, but Nielsen’s report shows that there’s still a lot of ground to cover yet for Bing. Google’s search engine accounts for 64.6% of the search market, which was up

2.6% from July. Yahoo!’s search engine came in second with 16% of the search market, which is down 4.2% from July. In an effort to accelerate its climb, Microsoft continues to roll out new features for Bing, the latest of which is the Visual Search beta, which lets users search by looking at images rather than mostly text. Microsoft’s recently announced partnership with Yahoo! is also expected to give the firm a market share advantage.

uTest Releases Search Engine Survey

A recent uTest survey of 1,100 software usability testers worldwide showed that Google’s search engine is still the favorite and that, although it has issues, Bing managed to impress nonetheless. uTests’ “Battle of the Search Engines” survey looked at bugs in Yahoo!, Bing, Google, and Google Caffeine and ranked each based on accuracy (which 71% of the testers said is a search engine’s most important asset), speed, relevance, and usability. About 90% of the respondents favor Google’s search engine. For accuracy, 90% of testers gave Google an Excellent or Good rating, followed by Google Caffeine (83%), Yahoo! (53%), and Bing (42%). Despite those results, 10% of testers said they plan to switch to Bing as their default browser, and more than 30% said they were favorably surprised by Bing.

Yahoo! Pulls Out Of Chinese Internet Marketplace

Yahoo! is selling its \$150 million stake in China’s Alibaba.com, a little more than 1% of its share in the company as a whole. Yahoo! will retain its 39% share of Alibaba Group, Alibaba.com’s unlisted parent company. The sale comprises 57.48 million shares of Alibaba.com at a 6.4% discount. To encourage support for Alibaba, founder Jack Ma has made plays in the stock exchange that have drawn attention to Alibaba. Alibaba oversees Alipay, an Internet payment system, and Taobao, a Chinese auction site, and has seen a resurgence in shares, nearly quadrupling in value since January after a steady drop in 2008.

Microsoft Still Faces Licensing Challenges

According to a recent Microsoft analyst report by Paul DeGroot and Rob Horwitz entitled “5 Reasons Why Microsoft Licensing Is Hard,” Microsoft licensing for corporations will constantly face new rules, exceptions, and challenges in the coming years. The obstacles highlighted in the report are an overabundance of products and markets, decentralized decision making, evolving technologies, limited enforcement tools, and minimal incentive. Moreover, some Microsoft customers are choosing not to renew contracts on the basis of lack of purchase value and user understanding. However, there is currently no incentive for changes in licensing because it would require a revenue cut for Microsoft.

Oracle Posts Weak Q1 Sales

Oracle has announced that sales of its database software and middleware products were down for the first quarter of fiscal year 2010. Overall, revenue in Q1 2010 was down 5% (\$5.33 billion to \$5.05 billion) from Q1 2009. Sales of new software licenses showed a more dramatic turn, down 17% , although software license updates for existing customers saw an 11% increase in revenue. Services-related revenue was down 18%, and new license sales of middleware and database software plunged 19%. Still, Oracle executives are optimistic that the numbers will recover as the company releases new versions of its products.

Report: Google Docs Threatening Microsoft Office?

According to a report from research firm IDC, about 20% of companies surveyed indicate that Google Docs is widely used in their offices,

although it’s likely this use complements Office rather than excludes it. In fact, more than 97% of respondents indicate that Microsoft Office is still widely used in their offices, although the results clearly indicate that interest in Google Docs is growing. IDC expects the numbers to change again when Microsoft releases Office 2010, which includes Google Docs-like cloud applications to complement its desktop applications.

Senate Discusses Cell Phone Safety Hazards

Although it has not been proven that cell phone use can cause cancer, a Senate committee met to discuss the need for more research on the issue. The meeting followed a study released by the Environmental Working Group that detailed potential health hazards for humans who use cell phones, as cell phones release different levels of radio-frequency radiation to communicate with towers. Until more research is done and safety standards are set, scientists ask that people reduce the amount of time their cell phones are held up to their ears and avoid using their phones in low-signal areas, as this is when cell phones give off an increased amount of radiation.

CA Acquires NetQoS For \$200 Million

IT management software maker CA bought privately held NetQoS for \$200 million, its largest acquisition since it bought Wily Technology for \$375 million in 2006. Austin, Texas,-based NetQoS provides software for tracking network and application performance that will enhance CA’s capabilities in application performance management, network and systems management, and cloud management. NetQoS has more than 1,000 customers and generated \$56 million in revenue last year. The companies expect most of NetQoS’ 250 employees to remain with CA. The deal, if approved by regulators, is expected to close before the end of the year.



DoJ To Further Investigate Microsoft/Yahoo! Deal

Microsoft and Yahoo! confirmed that the United States Department of Justice has asked for more information regarding their potential partnership. The DoJ’s request for more documents likely signals that the group will more extensively scrutinize the deal as opposed to immediately approving it. The 10-year deal calls for Yahoo! to sell advertisements on Microsoft’s Bing search engine, while Microsoft will provide search technology for use by Yahoo!. Yahoo! is set to receive \$150 million in the deal, along with 88% of net revenues from the joint venture.

Researchers Study Information Leakage In Cloud Computing

Researchers at MIT and the University of California, San Diego, have uncovered new reasons for enterprises to use caution with increasingly popular cloud computing solutions. During experiments with popular cloud services, the researchers were able to conduct side-channel attacks between virtual machines that could conceivably allow attackers to steal confidential information. Although they acknowledge that these types of attacks are minor, the researchers caution that enterprises using cloud services need to be aware of the possibility for such attacks and may want to insist on using physical machines populated only with their own virtual machines.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you’d like listed, please send an email to feedback@processor.com.

- SEPTEMBER -
Babbage Simmel CISSP Class

Sept. 28-Oct. 2
8:30 a.m. to 4:30 p.m. daily
Babbage Simmel
2300 W. 5th Ave.
Columbus, Ohio
www.babsim.com
.

ISSA Des Moines

Sept. 28, 11:30 a.m.
1401 50th St., Suite 200
West Des Moines, Iowa
.

Metro Atlanta ISSA

Sept. 30, 6:30 p.m.
Vigilar
900 Ashwood Parkway
Atlanta, Ga.
www.gaissa.org

- OCTOBER -
Data Center World

Oct. 4-7, 2009
Orlando, Fla.
www.datacenterworld.com



.
TechExecs Network | CIO Panel Forum

Oct. 6, 8 a.m.
Our Lady of the Lake University
San Antonio, Texas
www.techexecs.net/sanantonio.htm
.

Tech Execs Network | CIO Panel Forum

Oct. 7, 8 a.m.
West Pickle Research
Austin, Texas
www.techexecs.net/austin.htm
.

AITP Washington D.C.

Oct. 8, 6:30 p.m.
Alfio’s Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc.ning.com
.

ISSA Northeast Ohio

Oct. 8, 8 a.m.
Corporate College East
4400 Richmond Road
Warrensville Heights, Ohio
neoissa.org
.

Tech Execs Network | CIO Panel Forum

Oct. 8, 8 a.m.
Tower Club - Dallas
Dallas, Texas
www.techexecs.net/dallas.htm
.

Tech Execs Network | CIO Panel Forum

Oct. 8, 8 a.m.
Oracle (Conference Room 11005)
Washington, D.C.
www.techexecs.net/washingtondnc.htm
.

AITP Garden State

Oct. 13
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=21
.

PASS Wisconsin SQL Server

User Group
Oct. 13
Green Bay, Wis.
wisconsin.sqlpass.org
.

SA IT Service & Microsoft

Lunch & Learn
Featuring keynote speaker *Laura Ries*,
author of “War In The Boardroom”
Oct. 13
11:30 a.m. to 1:30 p.m.

Crowne Plaza Atlanta Ravinia
4355 Ashford Dunwoody Road
Atlanta, Ga.
www.saitservices.com
.

AFCOM Central Ohio

Oct. 14, 11:30 a.m.
Columbus, Ohio
www.afcomcentralohio.org

Waging War With The Web

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door to quickly evolving phishing scams and similar malware.

“Both phishing and malware use a combination of advanced technology and social engineering techniques to steal identities, money, or resources without the user knowing until well after the crime has been committed,” says James Brooks, director of product management for Cyveillance (www.cyveillance.com). “To make matters worse, both threats have grown exponentially over the past five years, consisting of millions of unique attacks during that period.”

Fighting Back

Although standard antivirus and firewall technologies continue to be stalwarts in the battle against Web threats, the far-reaching sophistication behind DoS (denial of service) and other attacks now forces many enterprises to go beyond traditional security methods. Because Web threats can now reach almost every point in the enterprise, security must similarly reach beyond just the data center to protect end users and everyone in between. Policies required to deliver that security might not prove popular with employees, but that shouldn’t stop management from enforcing them.

“Organizations must stand strong in the face of the sentiment that security somehow impedes productivity as well as the continued expectations around personal use policies,” says Jim Ivers, chief marketing officer for Triumfant (www.triumfant.com). “The Marines took some heat on their deci-

sion to ban Twitter and other social media outlets, but they suddenly looked very sage when Twitter suffered a long DoS attack within days of their announcement—and even smarter now it has been revealed that botnets can be controlled via Twitter.”

Employees might skip around the Web with little or no knowledge that threats lurk behind those jaunts, spurring the need for

Watchinski also recommends that patch management systems are updated not only with Microsoft Windows updates, but also with client packages. “I’ve seen a lot of organizations stop at the point that all their Windows systems are actually getting updates on Patch Tuesday, which just isn’t enough these days. You’ll need to make sure that things like Adobe Reader, Firefox, Flash, etc., are getting updated, also. Additionally, if your organization can support this type of environment, don’t let people run whatever application they want.

Top Threat: Web Application Vulnerabilities

As the Web continues to grow worldwide, so do the threats that can make it a highly dangerous digital ecosystem. According to IBM Internet Security Systems (www.iss.net), by far the most prevalent threats are Web application vulnerabilities, such as XSS (cross-site scripting) and SQL injection, which can easily affect off-the-shelf Web applications.

XSS attacks can occur when Web applications fail to properly validate user input in form fields, URL syntax, and other variables. Where this vulnerability exists, attackers can use their own script to maliciously alter the Web page’s appearance or behavior. SQL injection attacks also depend on failure to validate user input, but in this variant, hackers include their own SQL statements that can be executed by a database.

In addition to keeping on top of patch management and using a regularly updated firewall, experts also recommend thoroughly testing all Web applications used in the organization. Web application vulnerability scanners can prove useful for finding cracks, but it’s also advisable to hire security experts to attempt to hack the enterprise’s Web pages (in a controlled environment) to find security flaws and identify opportunities for more secure development.

managers to raise enterprise-wide awareness. Matt Watchinski, senior director of Sourcefire’s Vulnerability Research Team (www.sourcefire.com), says that although plenty of people think nothing bad will happen on the Web, it’s still imperative that organizations educate their employees on the dangers of Web-related threats.

Cut it down to a list of approved applications that can be updated and maintained over time,” he advises.

Holden adds that other Web-targeted tools, such as Web filtering and Web application testing (especially during the development process), are a must to prevent problems. Similarly useful, he says, is

an intrusion prevention technology that can detect and even prevent Web browser and Web application threats in a nonreactive manner.

A newer aspect of the Web can actually be a benefit for enterprises seeking additional refuge from Web threats. Christopher Ciabarra, president of Network Intercept (www.networkintercept.com), explains that an access-controlled cloud environment could help to safeguard organizations from major Web-based attacks, including DoS.

“It would give your organization multiple access points to enter the cloud around the world, which would make it pretty hard to be under a DoS attack, as each entry point would have to go down to be an effective DoS attack,” Ciabarra says. “With access control plugged in, each user would be accountable for their actions and could be disconnected at will if they try to perform an attack, safeguarding all enterprise assets from attacks.”

No Longer Business As Usual

According to Ivers, although the use of the term “Web 2.0” is overdone, it remains crucial for organizations to recognize that the fight against Web threats is quite unlike the fights of years past. Innovation must be applied to both strategy and technology implementation to battle continually evolving threats that attack enterprises in perpetually different ways.

“Any organization that uses a business-as-usual approach to IT security is simply fighting a different battle than is being waged by the other side,” Ivers says. “Cyber criminals are certainly not attacking in a business-as-usual mode.”

Bring Your Own PC?

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but also enable entirely new client delivery models such as BYOPC.

Vision & Goals For A BYOPC Program

In establishing its program, Citrix enunciated a simple vision: “Embrace consumerism in the workplace by delivering employees a simple, ubiquitous access experience, whether at the office, at home, or on the road, regardless of their computing device.” The company established several exemplary goals other enterprises contemplating a BYOPC program should consider. First and foremost, employees needed the flexibility to choose their systems while accommodating individual brand preferences; for example, 40% of Citrix employees selected a Mac. “It’s all about choice, providing options for individuals who really care about their environment,” says Michael McKiernan, director of worldwide operations planning and procurement at Citrix; although, because BYOPC is designed around an employee’s personal computer, it logically compels a laptop.

Next, Citrix strove for a simple, easy implementation. “To do this, it developed a BYOPC Web site that would both act as a self-service application portal as well as give employees the opportunity to get help desk type of support from the BYOPC community,” says Lambert. Finally, and perhaps most significantly in this economic climate, Citrix needed to reduce costs—its goal was a 20% cut in the total cost of managing the client PC environment.

Basic BYOPC Solution Architecture

BYOPC requires some form of virtualization, but this nascent, rapidly evolving technology comes in several flavors. Most implementations use server-hosted VDI, although Citrix went with application

streaming. While these inherently rely upon central application servers, client-hosted virtualization is also an option. Lambert considers server-hosted “the gold standard” because it enables greater control over the environment, data, and security policies; however, road warriors present a challenge when they’re without network connectivity for extended periods

A number of nontechnical issues arise when turning over the hardware procurement and support to employees and their suppliers. These include the size of hardware stipend participants receive, system hardware requirements, restrictions, if any, on the native client OS, program length or refresh cycle, procedures to maintain security compliance, and the effect on existing HR policies. At Citrix, McKiernan says they settled on a \$1,500 laptop price point; however, because the stipend is treated as a taxable bonus, they increased the gross

BYOPC Recommendations

Forrester Research Principal Analyst Natalie Lambert recommends enterprises considering a BYOPC program integrate lessons learned from Citrix’s initiative. While they claim positive feedback for the program was immense, there are some things Citrix would keep in mind in the future.

- **Communicate to managers first.** During the pilot, managers who were responsible for approving employees’ participation did not understand the details of the program. So, when the BYOPC initiative was opened up to the broader organization, Citrix focused on managing communication.
- **Develop tools that encourage self-service.** Employees in the Citrix program found the BYOPC Web site to be very helpful and informative throughout the process, from picking machines to installing software to getting support.
- **Happy employees are productive employees.** The majority of the employees who participated in the program believe that their productivity increased as a result. By giving employees their “dream machine,” they: 1) used the device more often, 2) increased their willingness to finish up that one last task, and 3) took better care of the device because they had invested their own money.

SOURCE: “BRING YOUR OWN PC REINVENTS THE CORPORATE PC: A CITRIX SYSTEMS CASE STUDY”; FORRESTER RESEARCH REPORT BY NATALIE LAMBERT WITH ALLISON HERALD; JULY 8, 2009.

(such as on an intercontinental plane flight) and may require a local VM.

Although older server-hosted products effectively required LAN links to the server farm for adequate GUI performance, Lambert says recent implementations, using updated VM network protocols, have largely eliminated this restriction. Thus, employees with home broadband connections or hotel Wi-Fi links should have no difficulty using server-hosted environment VDI—in fact, Lambert says she’s witnessed acceptable performance over a 3G wireless link.

amount to \$2,100. He notes that although they arranged for corporate discounts with several hardware vendors, most employees proved surprisingly resourceful in finding their own deals online.

Citrix sets some minimum hardware standards primarily to ensure adequate performance—sorry, no netbooks—and also requires employees to purchase a lifetime hardware maintenance contract. Because their application streaming product doesn’t support Linux, employees choose between a Mac with OS X or PC with WinXP or

Vista. Application streaming effectively isolates clients from the host servers and data, so McKiernan says the only other client requirements are installation of an antivirus client or security suite and use of a network access gateway SSL VPN.

Security is always a concern among IT managers; however, both Lambert and McKiernan stress that the BYOPC model isn’t radically different from a network security standpoint than what most companies are already doing for employee remote access or temporary contractors. “You don’t need to make it more secure than what you already have,” says Lambert, adding that BYOPC systems shouldn’t be held to a higher standard than remote users.

A potentially thorny issue with employee-owned systems is ownership of any locally stored data. Ideally, when using hosted virtualization, all data should be on servers in the data center; however, there are always exceptional cases, so Lambert says it’s important to confer with the HR and legal departments and update relevant employment contracts and IT policies to clarify data ownership.

BYOPC Popular Among Employees

BYOPC is one of those rare IT cost-cutting initiatives that’s actually popular with end users—McKiernan notes 54% of participants say it’s made them more productive. “Some people have almost a religious fervor about the program,” he says, adding that it’s also proving to be a powerful recruiting tool for younger workers. Citrix is also meeting its goals for 20% TCO reduction, according to McKiernan, and he believes the savings would be even higher had they gone with a hosted VDI implementation. Although not for everyone, companies already considering VDI as a cost-saving measure can extract some additional benefits by outsourcing PC procurement and hardware support to tech-savvy employees.

Threats On The Move

Protect Yourself From The Snares That Come With VoIP Systems, Smartphones & Other Mobile Devices

by Elizabeth Millard

AS TECHNOLOGY ADVANCES in the areas of VoIP systems, smartphones, and other mobile devices, threats are keeping pace in every area. Risk can come in the form of viruses, targeted attacks, and device loss, but experts note that there are ways to boost protection. Here’s a look at some of the most prevalent threats and how to keep your enterprise safer.

VoIP Issues

Although VoIP may present challenges that appear unique, they’re actually covered by the basics of security, notes Randy Abrams, director of technical education at ESET (www.eset.com), a provider of anti-virus and antispyware applications. “Remember, the IP in VoIP is Internet Protocol,” he says. “The Internet was designed to be a robust communications

Key Points

- VoIP should have systems on a VLAN and use the entire security toolbox.
- Consider a Web security SaaS service that neutralizes external threats.
- Encryption can ward off social engineering attacks.

Mobile Threats

Web-based threats are also a top concern for smartphones and mobile devices, notes Steven Ferguson, senior network engineer at the TCSG (Technical College System of Georgia; www.tcsg.edu), a state agency responsible for overseeing all of Georgia’s 33 technical colleges. He notes, “In the past, network security focused on protecting desktops and laptops, but smartphones and mobile devices are becoming popular targets for attack and are particularly vulnerable to malicious URLs, viruses, and malware.”

This threat can loom larger through the use of free applications such as Gmail and Yahoo! Mail, says Ozzie Diaz, president and CEO of AirPatrol (www.airpatrolcorp.com). “The cost-consciousness of a small business often leads them to use free tools for business purposes,” he says. “The increased presence of spam and malware through these free email services can pose significant risks to the small business, especially if they connect the mobile devices to their enterprise networks or PCs.” Another threat is loss of the device, adds Abrams.

When a smartphone or other device is lost or stolen, not only may it include proprietary information, but it also may contain enough info to hack into a network or provide powerful tools for social engineering. “With a little reading, an attacker can very convincingly appear to know the employee or associates well enough to be extremely believable,” Abrams says. “An attacker may know an employee’s travel

schedule and not only attack the employee, but craft messages claiming to be where the employee is.” The context of time and location, combined with knowledge of projects, can easily fool many people into divulging more information, he adds.

Staying Safe

TCSG has hundreds of employees using BlackBerry devices, and as both a governmental and an educational entity, the organization has added layers of security regulations to meet. To minimize risk of attacks, there’s a policy control set on the network, but it can be difficult to extend those controls to wireless devices, Ferguson says. Part of TCSG’s solution was to implement a Web security SaaS service that neutralizes external Web threats.

“The service works by evaluating the reputation of Web sites that employees are trying to access [on their mobile devices] and blocking access to malicious content on compromised sites,” he notes. All of the mobile device Web traffic is routed through a secure gateway proxy server to prevent users from looking at inappropriate sites or accessing malware-infected content.

Much like the VoIP protection, this is another area where security should be multilayered and include just about every protection that IT can throw at it, including policy development, antivirus, antispyware, access control measures, intrusion prevention and detection, and regular log checkups. Also vital are controls related to syncing, as malware can easily be spread into the network when a user syncs a device into a laptop or desktop.

For risk reduction related to data loss, Abrams emphasizes that encryption is critical. Not only can encryption prevent legal problems in terms of compromised customer data, he notes, but encryption can prevent the disclosure of proprietary information and ward off otherwise easy social engineering attacks.

He adds that devices that are lost and then returned can be a threat, as well, because they may have been altered while they were missing to include back doors. Recovered devices should always be reformatted, Abrams says.

Combating threats in VoIP systems, smartphones, and other devices may feel like firefighting sometimes, but the more multilayered a security plan is, the less likely the chances are of discovering a wildfire. 

Top Threat: Skimping On Network Monitoring

Although there are plenty of threatening viruses and malware in the wild, a particularly serious threat to the data center doesn’t come from code, but rather from neglect. Without proper network-monitoring tools, threats can slip in more easily and remain in a system for hours, even days. Watching traffic variances and levels is vital, notes Steve Wong, vice president of marketing at ClearSight Networks (www.clearsightnet.com). He suggests that an administrator use a long-term network recorder tool to check whether mobile devices are using the corporate network and how much bandwidth they’re consuming.

A traffic management tool or shaper can reconfigure bandwidth to limit downloads that might contain malware. Traffic shapers can also be programmed to disallow any access to network resources by smartphones, Wong adds, reducing the chance that an infected smartphone could impact the critical applications on the network.

Upcoming IT Events

For more Upcoming IT Events, see page 3.

- [AITP-Central Idaho](#)
Oct. 14, 11:45 a.m.
Owyhee Plaza Hotel
1109 Main St.
Boise, Idaho
www.boisestate.edu/dpma/dpmaci/centida.html
• • • • •
- [ICCA Kansas City](#)
Oct. 14, 7:30 a.m.
Perkins Restaurant
11200 W. 87th St.
Overland Park, Kan.
www.icca-kc.org
• • • • •
- [ISSA New Jersey](#)
Oct. 14
nj.issa.org
• • • • •
- [AITP Atlanta](#)
Oct. 15, 5:30 p.m.
Crowne Plaza Atlanta Perimeter NW
6345 Powers Ferry Road NW
Atlanta, Ga.
www.aitpatlanta.org/live
• • • • •
- [AITP Greater Boston](#)
Oct. 15
www.bostonaitp.org
• • • • •
- [AITP Omaha](#)
Oct. 15, 5:30 p.m.
Seraph Corp.
Omaha, Neb.
www.aitpomaha.org
• • • • •
- [AITP Tarheel](#)
Oct. 15, 6 p.m.
Foothill Brewery
638 W. 4th St.
Winston-Salem, N.C.
www.aitp.org
• • • • •
- [Boston Society for Information Management](#)
Oct. 15
www.simnet.org/Chapters/Northeast/Boston/tabid/78/Default.aspx
• • • • •
- [Tech Execs Network | CIO Panel Forum](#)
Oct. 15, 8 a.m.
UHY Advisors
Houston, Texas
www.techexecs.net/houston.htm
• • • • •
- [ISSA Upstate SC](#)
Oct. 16, 11 a.m.
NuVox
301 N. Main St., Suite 5000
Greenville, S.C.
www.upstate-issa.org/index.htm
• • • • •
- [AITP Pittsburgh](#)
Oct. 19, 6 p.m.
Sokol Club-Southside
2912 E. Carson St.
Pittsburgh, Pa.
www.aitp-pgh.org
• • • • •
- [AITP Long Island](#)
Oct. 20
www.aitp-li.org
• • • • •
- [AFCOM Michigan Chapter](#)
Oct. 20
Grand Rapids, Mich.
www.afcommi.org
• • • • •
- [AITP Southwest Missouri](#)
Oct. 20
Springfield, Mo.
aitpspringfield.org
• • • • •
- [Information Security Summit](#)
Oct. 29-30
Corporate College East
4400 Richmond Road
Warrensville Heights, Ohio
www.informationsecuritysummit.org

- DECEMBER -
[Gartner 28th Annual Data Center Conference](#)
Dec. 1-4
Las Vegas, Nev.
gartner.com/us/datacenter
For more than 27 years, the Gartner Data Center Conference has provided data center professionals real-world perspectives, tactics, and strategies to keep their operations running at peak performance. Our seven-track agenda drills down on servers and storage, TCO and IT operations excellence, aging infrastructures and the 21st Century data center, next-stage virtualization, consolidation, workload management, procurement, and major platforms.



The Insider Scoop

Insiders & Human Error Can Be Just As Damaging As Outside Threats

by Carmi Levy

• • •

WITH COMPANIES SPENDING the bulk of their IT security budgets on keeping the bad guys out, they often fail to account for the risk posed by trusted employees or contractors. The damage to organizational data and infrastructure when it comes from within can be every bit as devastating—if not more so—as anything an external attacker is capable of.

The rapid proliferation of inexpensive, flash-based devices doesn't help matters, as

it makes it all too easy for large volumes of data to be compromised or simply taken.

“Three or four years ago, you didn't have high-capacity USB thumb drives that allow employees to download entire databases and then walk out the door,” says Bob Eigenbauer, vice president of sales for CTH Technologies (www.cthtech.com). “In today's economy, a lot of people are leaving their jobs, and often they'll want to take certain information with them to leverage in their next job. Companies want and need to ensure their sensitive intellectual property stays where it belongs.”

Threats From Inside

Insider-caused threats take many forms, including these common scenarios:

- Overly generous access control that allows one person to access more systems than required for a given role.
- Lax data management processes that allow employees to copy entire databases to a thumb drive to work on at home.
- Training gaps that result in botched backups that fail to restore when needed, leading to lost data and productivity.
- Manual communication processes that can lead to confidential information

being inadvertently emailed to outside recipients.

- Insufficient monitoring that fails to detect behaviors inconsistent with specific roles.

It may seem that disabling certain privileges may be the obvious move. Simply cutting off access to certain systems or technologies isn't always the answer, however—especially when users need them to get their jobs done.

“There are definite uses and advantages to some of these newer technologies,” says Eigenbauer. “You ideally want to allow the user to take advantage of the tool, but to do so in a protected and secure manner that allows the organization to know what data they're taking and what systems they're touching.”



Key Points

- Enterprises need to be aware of the potential threats that can come from within the company walls, such as disgruntled employees and lax data management.
- Sharing and limiting responsibilities, knowing your employees, and establishing clear guidelines are key to protecting yourself from insider threats.
- Utilize your HR department to ensure that you hire trustworthy individuals through background checks and training.

Keep Thieves Out Of Your Enterprise

Avoid Becoming A Victim Of Physical Theft By Building Up Your Defenses

by Sixto Ortiz Jr.

• • •

INFORMATION THIEVES USE many complex methods to steal confidential business information. From networking attacks to social engineering ploys, there are multiple vectors thieves can exploit to get their hands on confidential information. But the most effective form of thievery might be the simplest: physical theft. Why go through all the time and trouble to steal a database using a complex cyber-attack when it may be much simpler to pay off a disgruntled employee to physically retrieve a server from company premises?

Administrators must consider the possibility of physical theft and how to protect their enterprises. At the end of the day, a well-defended network may be rendered useless if thieves are able to easily get their hands on company assets because defenses against physical theft are insufficient or lacking altogether.

Physical Theft: A Real Threat

The past couple of years have been difficult ones, as the United States struggles to

emerge from the worst economic crisis since the Great Depression. Unfortunately, economic struggles directly impact company employees, who may become more likely to engage in physical theft.

Philip Farina, CEO of Farina and Associates Ltd. (www.farina-associates.com), says physical theft occurs frequently within an organization, but the pressures from a downward or troubled economy can dramatically increase these incidents. Farina points out that due to the economic downturn, good employees who may have never

engaged in physical theft may now do so out of desperation.

“What may start out as an employee taking home a few Post-it notes and pens may escalate into reams of paper, laptops, or inventory,” he says.

Administrators should also pay attention to the possibility of the theft of information contained within physical hardware. Susan Callahan, chief marketing officer and senior vice president of business development at Mobile Armor (www.mobilearmor.com), says that today, more and more companies

Top Threat: Skipping The Basics

There's a lot to be said for installing a good, old-fashioned dead bolt. Charles Foley, chairman and CEO of TimeSight Systems (www.timesightsystems.com), says all companies should start with the basics of physical security, including using locks, access control, and surveillance.

“Technology has come a long way,” says Foley, “and there is really no reason not to place electronic security and surveillance on areas that keep either physical valuables or where employees have access to critical information.” The deterrent effect of knowing that the company values and is protecting its assets through surveillance is amazing, and the forensic value is unmatched, Foley emphasizes.

Key Points

- Difficult economic times are making it even more tempting for employees to engage in physical theft.
- Data theft can be far costlier to organizations than the theft of hardware devices themselves.
- SMEs should carefully screen the employees they choose to hire and develop security policies and practices to which the employees must adhere.

are utilizing a virtual workforce, with road warriors abounding in every industry.

“As the workforce goes increasingly mobile,” says Callahan, “so does the sensitive and confidential data that no one wants falling into wrong hands, such as financial information, customer details, or the recipe to the secret sauce.” Callahan also points to the fact that, according to the Ponemon Institute, the average cost of a data leakage event is \$6.6 million, not to mention the immeasurable and negative PR.

Steve Lee, managing director of Steve Lee & Associates, says his company tends to find fewer controls in private companies than in public companies. It is perhaps for this reason, Lee says, that personal trust, where employees may see an acquaintance walking an asset out of the workplace and just assume they have authorization to do so, becomes a greater problem in private firms.

Countering Physical Theft

Robert Houghton, president and CEO of Redemtech (www.redemtech.com), says the first step administrators should take to

Jack Gold, president and principal analyst of J.Gold Associates, says that planning should involve scenario-based modeling to understand the kinds of situations your particular firm might encounter. This allows IT and the business to plan recovery strategies in advance.

“You need to assess the really critical issues,” he says. “If the database dies, the network goes down, or you lose your VPN and can’t connect to your bank or your partners, that’s mission-critical and high-impact.”

He continues, “There are other issues, like a power strip going off and taking a few employees down for an hour, that may cause you some inconvenience but probably won’t completely shut down your business. You need to assess those levels and put plans in place for each one.”

Fighting Back

To combat the threats coming from inside, Gold recommends using a help desk methodology, which attaches priorities and severities to all inbound calls, as a guide. He also advises the following:

Share the responsibility. Assign more than one person to any critical system. The additional oversight hinders rogue employees from stealthily getting away with something. Redundancy also helps if a key individual suffers an injury, dies, or suddenly leaves the organization.

Limit the responsibility. Don’t give one person full access to every system; instead, compartmentalize accountabilities. Database administrators, for example, should not also be granted administrator-level access to the servers or the entire network.

Know your employees. People generally don’t lose control without some sort of advance warning. “I’m not saying everyone needs a psychological exam every six months,” says Gold, “but if you see issues, don’t ignore them.”

Establish clear guidelines. Define acceptable and unacceptable behaviors and expectations. “You want your people to know what you expect, what they’re supposed and not supposed to do, and what your processes and procedures are in case these things don’t happen,” says Gold.

The Human Factor

As much as IT focuses on implementing secure technologies, Dan Blum, senior vice president and principal analyst with Burton Group, says technology alone can’t close the human factors gap.

“The Human Resources department needs to be involved, as well,” says Blum. “Every systematic, comprehensive approach to security includes people and process as well as technology.”

By leveraging HR’s competencies in identifying the right individuals for the

right role, IT can reduce vulnerability to malicious internal attack. As an example, Blum says the domain administrator of an Active Directory environment is in an ideal position to cause havoc.

“The architecture of Active Directory is such that the domain admin essentially has the keys to the kingdom,” says Blum. “A malicious administrator has complete control of the domain and can fairly easily use that position to attack other domains throughout that organization. You’d definitely want to do a background investigation on this critical person.”

Blum says large organizations do checks like this fairly formally, but smaller organizations should also consider using relatively inexpensive Web-based services to run criminal background checks. “It’s definitely worth doing this for a person in such a sensitive position,” he says.

Once they’re in the role, training and awareness play a significant role in reducing the potential for insider attacks.

“Security is everybody’s business,” says Blum. “We all just have different roles, but we’re all part of the solution.”

Top Threat: Insufficient Training

It may not garner the same headlines as a high-profile insider theft, but data loss caused by a poorly trained employee who inadvertently deleted a database or exposed confidential data to the entire supply chain is just as devastating to the organization.

“It’s not always about people being malicious,” says Jack Gold, president and principal analyst of J.Gold Associates. “On the other hand, business continuity is the same regardless of intent, and contingency planning for that is important.”

Look beyond deliberate attack scenarios and equip your people to be more capable in their roles.

protect their enterprises from physical theft is to ensure inventory accounting is perpetually accurate. Houghton recommends that enterprises record the location of every asset at all times during their life cycles, even during transitions.

Timothy Dimoff, founder and president of SACS Consulting, points out that all companies need strong policies that clearly state theft of any kind will not be tolerated. Along with the development of these policies, he adds, enterprises should also ensure that they are strictly enforced. Employees should be made aware that all thefts will be investigated and perpetrators will be prosecuted, says Dimoff, who adds that it also helps for companies to encourage employees to report wrongdoing using anonymous “Tip Lines.”

Finally, Dimoff says SMEs (small to mid-sized enterprises) should properly train supervisory personnel, provide well-lit parking lots, and limit use of and closely monitor entrance and exit doors.

Protect Your Data Assets

Data protection is one of the key components of protecting against physical theft. Todd Feinman, chief executive officer of Identity Finder (www.identityfinder.com), recommends that administrators leverage technology products to find and protect their sensitive data to keep their organizations from exposing themselves to the consequences of stolen device theft. After all, he adds, if there is nothing left

unprotected on a device, the only thing a company loses is its hardware.

“The \$1,000 cost of a laptop is far cheaper than the \$200 million in legal fees, credit monitoring services, lost business, and bad reputation that some companies have faced,” says Feinman.

Mobile Armor’s Callahan says all companies need to make data protection and security an absolute priority. As a starting point, she says, IT and management need to establish and enforce explicit data protec-

tion policies on the use of mobile devices and define what data is acceptable and unacceptable to download to these devices.

Next, she adds, they need to put technologies in place that monitor, track, and report what data employees are putting onto the devices and then ensure that once the data is there, it is fully protected with strong encryption. Encryption, Callahan emphasizes, is an absolute must and should extend to all types of devices, from tiny USB thumb drives to desktop PCs.

“When it comes to securing data, the key to a strong defense truly is a strong offense,” says Callahan.

Keep An Eye On Staffing & Policies

Security from physical theft begins with a strong pre-employment screening process, Farina says. Be sure to double-check a potential employee’s background for any past issues or dishonest behavior.

Additionally, Steve Lee & Associates’ Lee says preventing physical theft boils down to a company’s control environment and its training, awareness, policies, and technologies. According to Lee, elements of the control environment to keep in mind include policies and practices, independent observation of inventory, segregation of duties, verification of shipments and receiving logs, two-person control, radio frequency tags and monitoring of inventory, surveillance and security, enforcement of security and area restrictions, and limitations on the distribution of keys and door lock combinations.

New LED Technology Could Change Future Of Video Screens

There have been a lot of advances in display technology recently, but a new process of creating ultrathin inorganic LEDs may change the future of video screens, including lighting and display systems that can function on a flexible or see-through surface.

Researchers from the University of Illinois, Northwestern University, the Institute of High Performance Computing in Singapore, and Tsinghua University in Beijing worked together to combine the advantages of inorganic LEDs, which are brighter and longer lasting than traditional LEDs but tough to produce, with the processing ease and high resolution of organic LEDs. The process allows the bright and versatile inorganic LEDs to be formed on flexible substrates in closely packed and interconnected arrays.

In a University of Illinois press release, John Rogers, one of the contributing developers and a professor of materials science and engineering at UI, says, “By printing large arrays of ultrathin, ultrasmall inorganic LEDs and interconnecting them using thin-film processing, we can create general lighting and high-resolution display systems that otherwise could not be built with the conventional ways that inorganic LEDs are made, manipulated, and assembled.”

Wafer Surface

To create the array, a rubber stamp is used to contact a wafer surface at select points, and the LEDs are lifted off at those points and transferred to the desired substrate, so you don’t need to individually cut and connect them. The developers also offer a way to transfer the LEDs to other locations on the same substrate by shifting the position and repeating the stamping process. By doing so, large panels can be made from the ultrasmall LEDs on a single wafer. The developers use the thin-film processing method, rather than wire bonding, to interconnect the LEDs.

In terms of possible uses, “Wrapping a stretchable sheet of tiny LEDs around the human body offers interesting opportunities in biomedicine and biotechnology,” Rogers says, “including applications in health monitoring, diagnostics, and imaging.” The inorganic LED technology might also be helpful to create solid-state lighting, instrument panels, and consumer display systems.

The developers expect material for the inorganic LED arrays to be more costly than organic LEDs, but because the inorganic LEDs are bright, you’ll use fewer to create video with similar brightness, so the costs may be comparable. Ford, the National Science Foundation, and the U.S. Department of Energy funded the work.

by Nathan Lake



PRODUCT RELEASES

Do you have a new product that data center/IT managers would be interested in learning about?



Send your press release or related product information to press@processor.com.

CLIENTS

■ BMC Software

Business Service Management Platform

BMC Software released enhancements to its BSM (Business Service Management) platform that assist customers in harnessing the power of virtualization and enabling private cloud computing environments at their own pace. The latest capabilities of the BSM platform address virtual lifecycle, performance, and compliance management in order to provide customers with the ability to rapidly take control of their virtualized infrastructures. From this foundation, organizations can move to complete private cloud management using the same BSM platform. Private cloud management applies the same level of service management capabilities, automation, and control for the private cloud as traditional physical and virtual IT infrastructures and applications. And its virtual lifecycle management feature eliminates virtual sprawl by managing all lifecycle activities.

■ Chip PC Technologies EX-PC XPD4741

Chip PC Technologies released the EX-PC XPD4741, a compact Windows Embedded Standard 2009 thin client system that's VMware VMview 3.1-certified. Integrating an Intel Atom processor with current Windows Embedded features, the system features low power consumption and a small footprint; support for PXE boot, multiple DVI LCD screens, and optional internal



wireless connectivity; and Xcalibur Global management software. Chip PC says the system is designed specifically for server-based and desktop virtualization environments. In addition to offering device configuration management based on user and group policies, the system includes Altiris Deployment Solution and Microsoft Windows Deployment Server to enable remote deployment and updating.

■ Dell Offerings

Dell launched a handful of products built to simplify operations, diminish downtime, enhance information security, and cut operating costs for medium-sized and small enterprises. The portfolio includes four 11th generation Dell PowerEdge servers, Lifecycle Controller 1.2 embedded systems

management, a PowerVault NX300 NAS tool, Dell UPSes, and Dell ProConsult services. The solutions are available from Dell or any of the company's Global Partner-Direct Channel Partners.

■ Eurocom D900F Panther-i7 Mobile Workstation & Mobile Server

Eurocom announced the D900F Panther-i7 Mobile Workstation and Mobile Server, designed for real-world application performance, reliability, and cool operation. The workstation and server feature LGA1366 i7 quad-core and Intel Xeon 5500 series processors, up to 2TB of storage, and 12GB of DDR3-1333 triple-channel memory. The workstation supports Windows XP Professional/Vista, Windows Server 2008, and Linux, with Open Solaris under development.

■ HP Exstream 7.0

HP announced version 7.0 of its HP Exstream enterprise software, which offers a streamlined design through delivery of customer communications across the enterprise, and it does so regardless of complexity, variability, or output channel—including high-volume, on-demand, and interactive document applications. One of the more than 250 enhancements in version 7.0 is the ability to automate sections and paragraphs, and the inclusion of bar codes can be used for complex interactive document applications, such as fully personalized transactional documents and contracts. Version 7.0 offers the ability for rich content to be retrieved by the HP Exstream LiveEditor directly from ECM (enterprise content management) and BPM (business process management) systems, Web applications, and SharePoint and then sent back to these sources for updates after editing. Other capabilities include security features, such as confidential masking of information, and role-based editing and expiration certificates.

■ IBM Enterprise Content Management

IBM announced new ECM (enterprise content management) software, designed to enable clients to manage their increasing volumes of information and reduce their business processing time. Features include a comprehensive business process management product with analytic capabilities, ECM starter packs, and a host of bundled



tools. Plus, it includes the IBM FileNet Business Process Manager bundle, with IBM FileNet Process Monitor, IBM FileNet Business Process Framework, IBM FileNet Connector for Microsoft Visio, and IBM FileNet eForms.

■ Igel Technology Universal Desktop Converter

Igel Technology announced its Universal Desktop Converter, a tool designed to help customers convert old PCs, thin clients, and select third-party hardware into a remotely managed Igel Universal Desktop. Universal Desktop Converter is designed to give users a smooth transition into server-based computing or desktop virtualization, which helps reduce the costs of infrastructure. Included with Universal Desktop Converter are three Digital Service Pack options (Entry, Standard, and Advanced). This way, enterprises can choose the platform best for them and only pay for what they need.

■ Kyocera Mita FS-C5350DN

Kyocera Mita released the FS-C5350DN, a desktop color printer with a 32ppm rating that's part of the company's ECOSYS line of environmentally minded printers. The printer offers 600 dpi color printing with a 140,000-page monthly maximum duty cycle, ability to print on multiple paper stocks, 500-sheet input tray, 150-sheet multipurpose tray, optional 500-sheet paper feeder, and paper-saving duplexing. Other features include standard networking connectivity, 256MB memory upgradeable to 1.28GB, and a USB 2.0 connection. Network and device management tools offered include KMnet Viewer, KMnet Admin, KMnet for Accounting, and PrintQ Manager. The printer is priced at \$1,983.

■ Lexmark All-In-One Inkjets

Lexmark announced eight multifunction inkjets for SMEs. Features include myTouch 4.3-inch Web-enabled touchscreens, 802.11n Wi-Fi support, business card scanning, and separate ink cartridges. Prices range from \$99 to \$199 for the Home Office Series with a three-year warranty and from \$169 to \$399 for the Professional Series with a five-year warranty. Additionally, Lexmark unveiled its \$4.99 105XL black ink cartridge, which offers enterprises a penny-per-page option for mono printing.



■ Sun Microsystems MySQL Enterprise Subscription

Sun Microsystems revealed its MySQL Enterprise subscription, which is designed to help IT administrators maintain MySQL database applications performance and availability. Features include MySQL Enterprise Server software; MySQL Enterprise Monitor, which the company says is a "Virtual DBA Assistant" that monitors database servers and alerts and helps solve a user's potential problems; and enterprise-class production support.

MESSAGING & TELEPHONY

■ NetSimplicity Meeting Room Manager 8.0

NetSimplicity announced version 8 of its Meeting Room Manager. This latest version includes bidirectional scheduling for Microsoft Outlook to give companies greater control over their schedules by synchronizing changes made in Outlook and on the Web. Meeting Room Manager is compatible with the latest versions of Microsoft's applications, such as SQL 2008, Server 2007/IIS7, and Internet Explorer 8.

■ Sybase Verizon Managed Mobility Solutions

Sybase and Verizon have forged a partnership to offer Managed Mobility Solutions, supported by the Sybase mobility service and enterprise device management platform. Verizon Managed Mobility Solutions integrates inventory management, logistics, mobile security, and application management. The service's Mobile Device Management enforces mobile policies and applications, and Mobile Security encrypts devices and deploys both firewall and antivirus protection.

■ Zultys MXmobile Unified Communications Client

Zultys launched the MXmobile Unified Communications client for BlackBerry

handsets. It offers comprehensive unified communications for mobile professionals, which enables them to stay connected to their colleagues. It also gives workers a productivity boost with tools such as displayed voicemail, internal extension dialing, and corporate directory access. Additionally, MXmobile Unified Communications offers a mobile presence feature that shows the status and availability of other workers in the organization as well as a single number contact for employees. The Least Cost Routing feature is designed to save organizations money and increase efficiency.

NETWORKING & VPN

■ Absolute Software Geofencing For Computrace Products

Absolute Software announced that its Computrace products will include geofencing capabilities. This will allow IT managers to incorporate the physical location of a

Absolute[®] Software

device in their IT asset management strategy. With geofencing, IT managers will be alerted when a user wanders outside of a predefined virtual range. If needed, IT managers can delete data from the device or report it stolen.

■ Apparent Networks PathView Version 2

Apparent Networks unveiled the latest version of its network performance management PathView tool. PathView Version 2 lets users apply the benefits of path-based management to virtual environments. It includes an enhanced reporting module, PathView Report Server, which lets users deliver more dependable results and improved quality of service. PathView Version 2 also features network performance troubleshooting capabilities, service-level monitoring, network readiness verification, and the ability to deliver reports on service delivery. PathView Version 2 starts at \$1,995.

■ Apparent Networks PathView Cloud

Apparent Networks introduced its PathView Cloud, which is a cloud-based version of the firm's PathView network performance management tool. PathView Cloud delivers all of the path-based network performance management features that users have come to expect from the utility but as a hosted service option. This enables users to meet their network performance troubleshooting, service-level monitoring, and network readiness verification needs for new applications using a cost-saving, pay-for-what-you-need platform. Subscription pricing starts at \$99 per month.

■ Barracuda Networks Link Balancer 1.2

Barracuda Networks launched a firmware update for its Barracuda Link Balancer, which is a product that provides failover and load balancing for inbound traffic. Firmware release 1.2 of the Barracuda Link



Balancer lets users provide redundant Internet connections to Web servers so that in the event of a link failure, server requests automatically pass through an alternate

PRODUCT RELEASES

active link. The inbound link balancing through DNS integration support lets users provide a more reliable end-user experience and add bandwidth aggregation for bidirectional Internet traffic. Barracuda Networks also announced a price cut: The Barracuda Link Balancer models start at \$1,499.

■ BMC Software & NetApp Integrated Solutions

BMC Software announced a partnership with NetApp to deliver end-to-end cloud infrastructure that features automated provisioning, deployment, management, and decommissioning. Strategic BMC and NetApp solutions include BMC Service Request Management, BMC Configuration Automation for Networks, BMC ProactiveNet Performance Management, BMC Atrium Orchestrator, NetApp Provisioning Manager, and NetApp SANscreen.



■ Citrix Systems HDX Technology

Citrix Systems announced its HDX technology, which helps ensure a high-definition virtual desktop experience even for the most demanding high-end professional graphics environments. The HDX 3D technology, available as a feature of Citrix XenDesktop, delivers applications to users in any location, over any network. Combined with the full portfolio of HDX technologies in XenDesktop, the HDX 3D capability assists in real-time collaboration among dispersed design teams while still ensuring the security of critical intellectual property. And with the company’s HDX Adaptive Orchestration technology, XenDesktop can also dynamically adapt to changes in the environment by applying the best technologies for each unique user scenario. HDX 3D is included as a feature of Citrix XenDesktop Advanced, Enterprise, and Platinum editions for all new and existing XenDesktop customers at no additional charge.

■ EMC Global Services & Proven Solutions

EMC announced a suite of more than 30 services and solutions designed as a breakthrough approach toward speeding up the transition to a private cloud foundation that addresses application, infrastructure, and governance issues. The company says the end-to-end services and solutions will let customers speed up enterprise-scale virtualization. Overall, the services and solutions, which include consulting, technology integration, resident, and education service features, will help users plan, implement, and scale private cloud environments. Various features include the potential to save up to 45% over traditional data center approaches, assistance in developing strategies to virtualize applications and manage the process of obtaining a private cloud, EMC Ionix IT management services, and EMC Proven Solutions to minimize risks by providing reference architectures and documented best practices to deploy data center virtualization technology.

■ FrontRange Solutions License Manager 3.1

FrontRange Solutions launched FrontRange License Manager 3.1, which helps organizations better manage their Microsoft Enterprise Agreements and other volume licensing arrangements. For organizations that actively use Microsoft SMS 2003, FrontRange License Manager 3.1 includes a data collector that can take software audit information from the systems management

tool. FrontRange also enhanced the integration between License Manager and its default software audit source, FrontRange Discovery. Version 3.1 also features a bulk data import tool that takes licensing information from multiple vendors and contracts and automatically loads it into the license repository. An upgrade to FrontRange License Manager 3.1 is free to all supported License Manager and SAM Suite customers.

■ Lumeta IPsonar

Lumeta announced the latest version of IPsonar, a network discovery and mapping product. Designed for larger enterprises, IPsonar features configurable real-time alerting on network discovery information and significant host-level network mapping advancements. Other features include an extendable and flexible alerting management system (with alerts that can be categorized); easy integration into other IT tools; and preconfigured alerts that include discovered devices, unknown IPs, and nonresponding networks. Pricing is dependent on the size of the network and number of connections but typically starts at about \$75,000.

■ Microsoft System Center Essentials Management Suite

Microsoft and its participating OEM (original equipment manufacturer) channel partners are now providing a new software license, Microsoft System Center Essentials Management Suite, which contains Microsoft System Center Essentials 2007 and Microsoft System Center Virtual Machine Manager 2008. The programs are



designed for midsized enterprises faced with restricted IT resources that want to optimize IT productivity and manage desktops and servers through just one management console. The suite also offers the ability to upgrade in the OEM channel to be sure users will have the rights to Microsoft System Center Essentials 2010.

■ Motorola One Point Wireless Suite

Motorola’s Enterprise Mobility Solutions added features to its One Point Wireless Suite. The new Motorola Broadband-Planner and the enhanced versions of Motorola LANPlanner and Motorola RF Management System are all designed to let IT departments and systems integrators build more efficient indoor and outdoor wireless deployments in order to create the optimal configuration for the best performance when it comes to mobility applications. It also lets them quickly identify and correct network issues.

■ NetApp Data OnTap 8

NetApp released Data OnTap 8, which is designed to let customers shift data centers to an ITaaS (IT-as-a-service) model. The company says this release will build on previous Data OnTap platforms with enhanced functionality for virtualized and shared infrastructure environments, including nondisruptive data mobility, dynamic growth through scale-out architecture, and 64-bit storage aggregates supporting multi-terabyte deployments. Data OnTap 8 also gives users better data management abilities and tighter integration with data center management systems. In addition to Data OnTap 8, NetApp also announced the release of the NetApp Data Motion technology; Performance Acceleration Module II; NetApp Dymanic Data Center Solution;

NetApp Fast-Start Customer Workshop; and DS4243 disk shelf, a SAS/SATA disk subsystem that lets enterprise customers streamline their data footprint.

■ NetQoS Performance Center

NetQoS’ recently released Performance Center is engineered to find critical data and combine it with network and application performance information from the physical environment. This aims to detail how well the infrastructure is supporting application delivery. Performance Center should close the gap between the virtual and physical environments by gathering and examining application response times, traffic flows through Cisco IOS NetFlow, and device performance statistics within multitiered, virtual hosts, both in and out of the virtual environment.

■ NetScout nGenius InfiniStream 2900 Series Appliance

NetScout announced the nGenius InfiniStream 2900 Series appliance, a tool designed to extend always-on service-level visibility and continuous packet recording to more areas of the network. In a lower-capacity, compact form factor, the nGenius InfiniStream 2900 Series appliance is available with Fast Ethernet or Gigabit Ethernet interfaces; can continuously capture every packet across the network and analyze, index, and store them in real time; and can be used in a standalone mode or as part of an end-to-end always-on nGenius product.

■ Network Critical Smart Network Access System

Network Critical announced an upgrade to its Smart Network Access System. The upgrade will include filtering capabilities that will allow users to sort the data passing through a TAP (test access point) and monitor only the network information administrators need to see. Filters can be applied to



Layer 2, 3, and 4 traffic. The Smart Network Access System also adds a Web interface that will allow users to configure and update their TAP devices. Lastly, the upgrade will also provide the ability to receive SNMP alerts whenever an event occurs on an attached network device or tool.

■ Neverfail 6.0

Neverfail announced the release of Neverfail 6.0, which protects applications on physical, virtual, and cloud-based servers from software outages. Neverfail 6.0 includes several modules and components, such as Neverfail Tertiary, which deploys fully automated, three-tier failover support into a single business continuity platform, and Neverfail WANSmart, which ensures the best performance over the WAN while minimizing bandwidth requirements and impact on other WAN users.



■ Parallels Desktop 4 For Windows & Linux

Parallels announced Parallels Desktop 4 for Windows and Linux, a solution that supports tools for virtual PC environments. Designed to run multiple operating systems simultaneously on one machine, Parallels Desktop 4 for Windows and Linux runs on

Intel VT-x and AMD-V virtualization technologies. The company’s Parellels Fastlane Architecture offers increased CPU and virtual RAM support. Other application features include sandboxed environment creation, application compatibility, Web browser testing, compute cloud simulation, and safe Internet browsing. Parallels Desktop 4 is \$79.99.

■ Profound Logic Software Genie

Profound Logic Software announced enhancements for Genie, its green-screen modernization tool. Genie enables enterprises to perform green-screen modernization without requiring source code. Genie also supplies organizations with development tools such as a visual RIA (rich Internet application) designer. Other features new to Genie include the ability to display any existing screen as a pop-up window and a method for synchronizing backend processes with the 5250 session’s library list and user permissions.

■ Reflex VMC v2.0

Reflex Systems announced the release of VMC version 2.0, which includes an expanded version of vTrust, Reflex VMC’s VMsafe policy enforcement technology. The vTrust expansion includes infrastructure and compliance policy settings. Reflex VMC’s features also include virtual software asset management, which can track and monitor installed applications on each virtual machine without an agent. In addition, role-based access control functionality has been added to define and control user access levels of VMs and other virtual infrastructure.

■ Telect Layer One Communication Network Solutions

Telect unveiled a line of Layer 1 communication network solutions for telco environments. Designed for closet installations, the Telect line offers Ethernet switching, power distribution panels, wall-mountable fiber optic patch panels, and module connectivity for low-circuit-count applications. Additional features include a wall-mount media converter for signal extension over fiber conversion and CableLinks for routing cabling around equipment. The Telect SDP1000 Access Switch has a total of 24 Ethernet outputs and integrates both cable management and Telect Ethernet patch/distribution panels.



■ Wyse Technology PocketCloud

Wyse Technology announced Wyse PocketCloud, an application for the iPhone and iPod touch that is designed to let users access their PCs and virtual desktops using their handheld devices. PocketCloud employs Wyse’s Remote Desktop Protocol 6.0 to enable the connection and communication between the iPod touch or iPhone and the virtual or physical machine. Supported protocols include the Microsoft RDP, VMware View 3.1 connection broker in direct and tunneling modes, and SSL. PocketCloud 1.0 also offers experimental support for RSA 2-factor authentication. Wyse PocketCloud works with Microsoft Windows 2000, Windows XP Pro, Windows Vista Business, Windows 7, and

PRODUCT RELEASES

Continued from Page 9

Terminal Services features in Windows Server products. The PocketCloud App is priced at \$29.99 from the Apple App Store.

■ Wyse Technology Project Borg

Wyse Technology unveiled its Project Borg, which refers to the firm’s latest client virtualization platform that lets customers go four to six years in between hardware refreshes. Borg is easy to install and manage thanks to the offering’s automatic management and Wyse’s TCX virtualization software, which delivers a quality user experience in conjunction with Citrix, VMware, and Microsoft’s virtualization platforms. Project Borg enables multi display support, multimedia capabilities, and richer sound; delivers USB peripheral support; and features Wyse’s Collaborative Processing Architecture, which intelligently divides rich media application workloads between the server and client.

PHYSICAL INFRASTRUCTURE

■ Avocent AutoView 3008 & AutoView 3016

Avocent released two ASIC-based digital KVM switches: the AutoView 3008 and the AutoView 3016. Utilizing Avocent’s SOC (System On Chip) technology, both switches run on a silicon chip for analog and digital operations. Designed specifically for SME IT management, the AutoView solution offers support for SSL 128 bit, 3DES, and AES encryption protocols as well as remote access over IP. The AutoView KVM switches also include out-of-band, BIOS-level physical server access and a built-in Web interface.

■ Emerson Network Liebert MPX, MPH & Knurr DI-STRIP

Emerson Network Power released three rack PDUs designed to assist data center and IT managers in managing the changes and complexity of connected loads through their facilities and network closets. The PDUs include the scalable, modular Liebert MPX; the Liebert MPH, which supports real-time monitoring and control of connected loads; and Knurr DI-STRIP, which is available in standard and HighPower models. The company says each PDU operates at up to 131 degrees Fahrenheit. The MPX lets users reconfigure rack PDU input power from 20 to 60 amps and swap out receptacle modules on the fly. The MPH and MPH both include an integrated network card offering upgradeable network communications, sensor input, intelligent display interface, and remote monitoring and secure Web/SNMP control.

■ Lantronix SpiderDuo

Lantronix released the SpiderDuo, the latest addition to its Spider family of KVM over IP tools. SpiderDuo is compact; IPv6-certified; and provides secure, real-time control of GUI-based computers, servers, and other equipment from virtually anywhere via the Internet. SpiderDuo enables remote users to completely control a computer, and the local port allows that computer to be jointly viewed and controlled with a local keyboard, video, and mouse. The solution’s dual capability is ideal for point-of-sale, kiosk, ATM, campus, or other environments where the device is in active local use but maintained by distant IT staff. By also

featuring remote management capabilities, SpiderDuo reduces the need for expensive maintenance technician fees.

■ Minicom Advanced Systems AccessIT

Minicom Advanced Systems announced it will be integrating Eaton’s ePDU products into its remote access management solution, AccessIT. Eaton’s ePDU products function as PDUs for enclosures and measure power consumption at both the data center level and the server level. This helps users gain both understanding and control of their infrastructures. Users can also monitor, switch, sequence, and manage individual outlets with Eaton products. Additionally, IT administrators will get on-demand Web-based remote access and power distribution control of all servers and IT tools.

■ Minicom Advanced Systems Power On Cable

Minicom Advanced Systems announced PoC (Power on Cable), a single-port power control tool. Designed for IT environments that need a complete remote support package of both BIOS-level KVM IP access and remote power control, PoC features compatibility with 90-260 VAC 44 to 66Hz up to 10 amps. Other features include a “power cord” design to make it easy to connect several units.

■ Packet Power Power Manager

Packet Power released version 2.0 of its Packet Power Power Manager application. The Packet Power system is designed to provide granular, billing-quality energy consumption data without disrupting your existing power distribution infrastructure. It works in any size of facility, letting you view energy usage information by application, line of business, customer, or technology platform. With Power Manager version 2.0, you can easily configure the number and type of circuits in a rack, export data to other applications via SNMP, and generate alerts based on user-specified criteria. In addition, version 2.0 includes enhanced functionality and usability improvements.

■ Panduit Inlet Duct For 1RU Switches

Panduit released an inlet duct system that’s designed to filter cool air to 1RU switches. When used within server cabinets or racks as part of a data center, the company says, the duct generates a cool air path to air intakes on the switch’s sides. Panduit says the system is compatible with Cisco Catalyst 4948, 4928, and 4924 switches and can be deployed after the 4949 and other equipment has been installed. Additionally, companies can experience higher energy efficiencies and lower operating costs through the ability to raise data center temperature set points.



■ Pelican Products 1740 & 1770 Long Cases

Pelican announced its 1740 and 1770 long cases for sensitive shipping purposes. The 1740 Long Case includes two double-wide handles for secure travel, polyurethane wheels featuring ball bearings, and nylon hubs. This model is equipped with base-to-lid locking cleats. The 1770 Long Case is designed to store equipment up to

54.58 inches long. Both cases include lids outfitted with watertight O-rings, six latches, and automatic pressure equalization. The 1740 Long Case costs \$499.95, and the 1770 Long Case costs \$579.95.

■ Rittal UL Type 12-Rated TS8 Enclosures

In response to technological advances in manufacturing operations and other industrial applications increasingly integrating IT-dependent processes to make IT equipment outside the data center more prevalent, Rittal is touting its UL Type 12-rated TS8 enclosures. Rittal says the enclosures meet both the IT performance and industrial-grade protection demands that such situations raise. The enclosures are compatible with numerous industrial and IT accessories, including the company’s own industrial cooling products. Additionally, the company says the enclosures are designed with infinitely depth-adjustable 19-inch rails with U markings, maximum internal-volume-for-footprint with 3,200-pound load capacities and multiple-point mounting options, tool-less cable management options, and internal hinges and locking points.

SECURITY

■ Astaro Free Business Firewall For VMware

Astaro announced that it is offering a free business firewall for VMware, which offers the base functionality of the Astaro Security Gateway Virtual Appliance using a special license key, to enable organizations to secure their network from external threats. It can also control and monitor communications between virtual machines. Astaro’s free business firewall for VMware adds enterprise security functions to all VMware vSphere editions, no matter the organization’s size. And it comes with the same functionalities and performance as VMware’s vShield Zones, but it’s free and offers the ability to add additional applications, including mail and Web filtering capabilities, as needed.

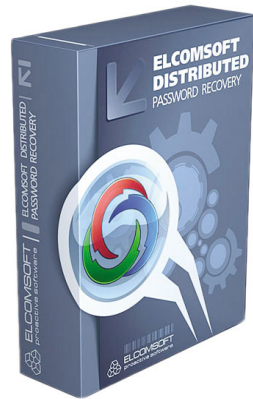
■ eIQNetworks ComplianceVue Packages

eIQNetworks unveiled the ComplianceVue Packages, which are turnkey offerings based on the SecureVue security and compliance management platform that is designed to help with compliance reporting requirements. The ComplianceVue packages, which include PCIVue, NERCVue, and HIPAAVue, offer detailed compliance reporting across more than just log data. The new ComplianceVue packages offer a SecureVue Central Server and the associated compliance reporting modules and dashboards needed to supply the required documentation for regulatory-driven audits.



■ ElcomSoft Distributed Password Recovery

ElcomSoft’s updated Distributed Password Recovery quickly recovers lost passwords. Distributed Password Recovery is ideally suited to organizations looking for robust password recovery services, such as forensic and government agencies, data recovery and password recovery services organizations, and corporate users. The offering supports GPU acceleration with Nvidia GeForce 8 series and newer graphics cards and Quadro- and Tesla-



based cards. The enhancement makes recovery of PGP Disk passwords up to 200 times faster using GPU acceleration. Distributed Password Recovery is capable of reclaiming passwords for LM/NTLM hashes used in Windows NT/2000/XP/2003 logon passwords, all types of Microsoft Office documents, Microsoft Money, Microsoft OneNote, Adobe Acrobat PDF files, PKCS#12 certificates, PGP, Lotus Notes ID files, MD5 hashes, and user passwords for Unix and Oracle users. Distributed Password Recovery starts at \$599.

■ Fortinet FortiClient Endpoint Protection Suite 4.1

Fortinet released version 4.1 of its FortiClient Endpoint Protection Suite, which includes several enterprise-class features to support large and performance-intensive environments. FortiClient Endpoint Protection Suite 4.1 features SSL VPN, WAN optimization, application detection, and endpoint control, and it also delivers a manageable compliance infrastructure to help enterprises reduce exposure to cybersecurity threats. Version 4.1 can provide broad protection for laptops and PCs or be implemented modularly to coexist with other dedicated security products for end points. Fortinet is offering a standard and unmanaged version of FortiClient 4.1 that is free to anyone who seeks comprehensive protection for their laptops and PCs. Both the complimentary and licensed versions receive automatic updates from the FortiGuard subscription service to help ensure protection against the latest threats.

■ Nexcom International NSA3110 Network Security Appliance

Nexcom International announced the NSA3110, an entry-level network security appliance. Equipped with the Intel G41 chipset and based on the ICH7R controller, the NSA3110 features a 1U 19-inch form factor, eight Intel 82541 LAN chips with four bypass segments, two SATA connectors, one reverse SATA connector, and one PCI-E x8 expansion slot. The NSA3110 supports 3x DDR-3 memory (up to 4GB) and Core 2 Duo and Core 2 Quad Intel processors.

■ Skybox Security Skybox View 4.5

Skybox Security released Skybox View 4.5, which it says provides features that let enterprises come into compliance with PCI DSS requirements and maintain continuous compliance. The release includes added functionality concerning authentication and user management, support for third-party products, and assistance to enterprises in visualizing and eliminating security issues before they’re exploited. PCI DSS compliance occurs through automation, analytics, modeling, and what-if predictions, Skybox states. In addition to enhanced support for PCI v1.2 Requirements 1, 6, 11, and 12, this version of Skybox View adds support for PCI DSS v1.2 requirement 1—Access Policy and Reporting as well as for Requirement 6.1—Reporting. Further, the Skybox Firewall Compliance Auditor features the ability to keep the firewall configuration under control.

SERVERS

■ Lenovo ThinkServer TS200 & RS210

Lenovo introduced its latest ThinkServer products, the TS200 tower and RS210 rack single-processor servers, which are best-suited to SMEs. The servers ship with the latest Intel Xeon 3400 series processors and include enhanced 24/7 remote access, virtualization capabilities, and multiple power-saving features. The servers support

PRODUCT RELEASES

high-speed DDR3 memory up to 32GB; IMM (Integrated Management Module) for management over the Web; and the Easy-Startup tool, which enables users to better manage RAID configurations.



SERVICES

■ Accuvant Technology Optimization Program

Accuvant announced the Technology Optimization Program, which is designed to help organizations better manage, configure, tune, and maximize the value of their current technology investments. The company says the Technology Optimization Program ensures the current technology in a client’s infrastructure is fully utilized and optimally configured for their specific environment and that weaknesses are cost-effectively identified and addressed. Accuvant will help customers identify and create a baseline of requirements through interviews, documentation, and a process review. Then, consultants will analyze and realign existing investments to suit the intended need. An action plan is then created to define the strategies a client can follow and implement to maintain and augment the existing environment.

STORAGE

■ Adaptec Data Conditioning Platform Strategy

Adaptec announced a plan for developing better ways to intelligently route, optimize, and protect information as it winds through the I/O route. The Adaptec Data Conditioning Platform strategy is designed to augment performance and meet meaningful Green IT objectives without needing to modify already-existing storage architecture, application software, or operating



systems. Additionally, the Adaptec Data Conditioning Platform strategy simplifies the adoption of new technologies and minimizes the risks and performance hit usually associated with incorporating new data center technologies by implementing seamless compatibility with all leading servers, storage devices, and operating systems.

■ Adaptec MaxIQ SSD Cache Performance Solution

Adaptec unveiled the MaxIQ SSD Cache Performance solution, which is designed to create and control HPHAs (high-performance hybrid arrays), which are storage arrays that use both SSDs and HDDs. These HPHAs also provide up to five times the I/O performance, offer up to 50% savings in capital and operating expenses, and consume less power over HDD-only arrays. The MaxIQ SSD Cache Performance Solution incorporates a tuned 32GB Intel X25-E

Extreme SATA SSD with Adaptec’s MaxIQ SSD caching program to offer I/O intensive data center and cloud computing customers cost-efficient scalability without disturbing existing operations.

■ Atempo Digital Archive 3.0

Atempo released management and support capabilities for its Atempo Digital Archive 3.0. To optimize file archiving software, Atempo added a media management layer, disaster recovery capabilities, an XML plugin, multipartitioned archive support, and compatibility with NetApp NAS storage and Building4Media asset management software. NetApp’s file migration API is designed for ADA 3.0 to integrate file retrieval for both NetApp and Atempo clients. The XML plugin features a visual interface that connects files and metadata to support a broad range of applications.

■ Brocade DCFM 10.3, SAO

Brocade announced DCFM 10.3, which offers features and capabilities across its networking hardware, software, and management portfolio that provide SANs more awareness and visibility of virtual machines and vice versa. The latest features also extend essential networking services beyond physical servers and into the virtual realms. Customers will have visibility of VMs on Brocade fabrics through DCFM integration with VMware environments. Benefits include the ability of SAN administrators to view VMs running inside of physical servers and the ability to view VM properties end-to-end from the server to storage via Brocade HBAs and switches. There’s also support for a management plugin for VMware vCenter that supplies key metrics and alerts through VMware vSphere. Additionally, Brocade introduced SAO (Server Application Optimization) for Brocade FC adapters and switches.

■ C2C ArchiveOne Express

C2C announced ArchiveOne Express, an addition to its line of email archiving solutions. ArchiveOne Express can help enterprises improve mail system capacity and performance while meeting compliance and e-discovery requirements. ArchiveOne Express is wizard-driven and easy to install, supplies user access compatible with Apple iPhone and RIM BlackBerry, utilizes a fast integrated search and e-discovery method, and has no separate database to administer.

■ DataPipe 3PAR Cloud-Agile: Assured & 3PAR Cloud-Agile: Secured

DataPipe released virtual private array and disaster recovery services backed by 3PAR Utility Storage. 3PAR offers 3PAR Cloud-Agile: Assured and 3PAR Cloud-Agile: Secured services to expand both security and cloud compliance. 3PAR Cloud-Agile: Assured delivers remote copy data replication and autonomic backup. 3PAR Cloud-Agile: Secured is a secure virtual private array service with shared hosting and secure monitoring.

■ Ekinops Fibre Channel SAN Solutions

Ekinops is offering a full line of Fibre Channel SAN solutions, recently certified as Brocade Data Center Ready. The Ekinops solutions support standard SAN service types, including 1G, 2G, 3G, and 4G, with 8G soon to come. The advantages of the Ekinops 360 platform are multisite sharing, DynaMux dynamic multiplexing protocol, Fibre Channel encryption, SAN service for WDM, and delivery over SONET/SDH/Ethernet transport infrastructure.

■ FalconStor Software Comprehensive Offerings For VMware Environments

FalconStor Software announced comprehensive offerings to support, enhance, and extend protection of data in VMware vSphere 4 environments. The company’s VMware vCenter Server and VMware vCenter Site Recovery Manager feature storage management and disaster recovery extensions that offer storage provisioning for virtual machines and automated fail-back to the primary site for remote VMs. FalconStor’s Storage Manager for VMware vCenter Server is a plugin that extends the company’s storage management capabilities into VMware vCenter Server. The company also says that its virtual appliances support VMware’s VMDirectPath I/O.

■ Iomega StorCenter ix4-200d

Iomega unveiled the StorCenter ix4-200d, a four-drive NAS appliance that comes in 2TB (\$699.99), 4TB (\$899.99), and 8TB (\$1,899.99) capacities. It’s certified for VMware virtualization and comes with EMC LifeLine software. Features include Windows Active Directory support, dual Gigabit Ethernet ports, iSCSI block-level access, IP surveillance camera support, networked device-to-device replication, RAID 5/10 support with automatic array rebuilding, and JBOD support and remote access functions.

■ NovaStor NovaBACKUP xSP

NovaStor announced NovaBACKUP xSP, a SaaS package that combines both local and online storage data backup. Designed to give service providers a way to offer clients an alternative to local backups, NovaBACKUP xSP lets users create a local image to protect data and offers integrated virus protection, open file backup, small file size with FastBIT technology, and AES encryption. Providers can offer complete data availability via a single user interface to reduce time and money required to manage backup data.

■ Promise Technology VessRAID

Promise Technology announced its VessRAID SAS and iSCSI storage system. The VessRAID system meets high-capacity storage requirements for video surveillance, unstructured data, and disk-to-disk backup while also achieving business continuity, the company says. The power-efficient RAID features Promise Technology’s OPAS (One-Plug-Auto-Service) technology, which uses a USB flash memory drive to facilitate service report gathering, configuration via scripting, and firmware updating. Prices range from \$1,899 for eight bays to \$3,099 for 16 bays.



■ SteelEye Deployment Services

SteelEye announced SteelEye Deployment Services to complement its line of high-availability, data replication, and disaster recovery solutions. The services provide customized installation, configuration, validation, and administrator training for the implementation of SteelEye solutions within data centers. It is designed to support a broad range of application and server

configurations, and the SteelEye Deployment Services are done by a SteelEye Certified Engineer, alongside the organization’s IT personnel, to install and validate a highly available data center infrastructure. Onsite and remote delivery through a secure Web connection to the enterprise’s data center are both available.

■ Western Digital Caviar Black, WD RE4 2TB

Western Digital announced two 2TB, 7,200rpm hard drives. Both feature twin processors for I/O speed, dual head actuators for better accuracy, 3Gbps SATA interfaces, and 64MB caches. The Caviar Black is a consumer and workstation performance drive, whereas the RE4 2TB is oriented toward network storage and server duty.

■ Western Digital Scorpio Blue 640GB Hard Drives

Western Digital released its Scorpio Blue 640GB hard drive for volume shipments. The 2.5-inch notebook drive is 9.5mm high and uses 320GB-per-platter technology. WD says the drive is the highest-capacity 2.5-inch drive available in the 9.5mm, two-disk form factor. In addition to providing a 30% reduction in overall power consumption, the drive features WhisperDrive technology, which WD says combines seeking algorithms to produce quiet operation; ShockGuard technology; and IntelliSeek, which calculates optimum seek speeds to decrease power consumption, noise, and vibrations. The drive is priced at \$149 and includes a three-year limited warranty.

■ Xiotech VM Storage Solution Lite

Xiotech announced the VM Storage Solution Lite, a combination of Emprise 7000 Edge SAN and Xiotech Virtual View. Emprise 7000 Edge storage system utilizes Xiotech’s ISE (Intelligent Storage Element) technology to minimize disk maintenance. The new VM Storage Solution Lite can increase performance by integrating into the VM environment and managing storage and VM tasks. The solution can support 10 ISE (160TB) but can be upgraded to handle the VM Storage Solution, which can support up to 64 ISE.

UPCOMING TECHEXECS CIO PANEL FORUMS

TECHEXECS NETWORK (www.TechExecs.net) started about nine years ago as a way for senior IT executives to connect. It has since grown to more than 370,000 contacts throughout the United States. The TechExecs Network focuses on promoting regional technology community, featuring best-of-breed resources available to key decision makers, networking and partnership among technology and industry executives both online and in-person, and ultimately connecting industry buyers and suppliers. TechExecs has a number of learning and networking forums this fall. All readers of *Processor* can attend for free.

- **Oct. 6 - San Antonio**
www.techexecs.net/sanantonio.htm
- **Oct. 7 - Austin**
www.techexecs.net/austin.htm
- **Oct. 8 - Dallas**
www.techexecs.net/dallas.htm
- **Oct. 8 - Washington Chapter**
www.techexecs.net/washingtondc.htm
- **Oct. 15 - Houston**
www.techexecs.net/houston.htm
- **Oct. 29 - Seattle**
www.techexecs.net/seattle.htm

Security Giants Unite Against Malware

In an effort to more aggressively mitigate online security threats, the IEEE Standards Association established the ICSG (Industry Connections Security Group), an assembly of six security companies: McAfee, Sophos, Symantec, Microsoft, AVG, and Trend Micro. By pooling the resources with the security industry, the ICSG has a goal of creating best practices for computer security. As the group becomes more operational, it will grow to include other security vendors such as banks and ISPs.

According to the ICSG, the primary security problem today is that “attackers have shifted away from mass distribution of a small number of threats to microdistribution of millions of distinct threats.” In order to counteract this, the ICSG intends to focus on improving the overall efficiency of collecting and processing malware files. One suggestion to achieve this is by adding XML format metadata to file samples during their transfer.

Other charter goals include enhancing the quality of protection against security threats, avoiding duplication of standardization practices, preventing monopolization by one organization, and expanding the scope of tackling challenging objectives.

Organization With A Purpose

The ICSG’s initiative will evolve through design, feedback, pilot development, standardization, and full deployment. James Quin, senior research analyst at Info-Tech Research Group, says the architecture of preventive concepts is ripe for productivity.



“The IEEE-SA is an organizational model that allows the member companies to focus on solving problems, rather than establishing an org structure,” says Quin. “The agreement of all parties to adopt this structure speaks to their commitment to work together as peers, which is really quite something. By agreeing to a standardized format for information presentation, the group will institute a process that means information can be consumed by other alliance members more readily.”

Quin adds that, although the ICSG has established a solid foundation, there’s room for more cohesiveness. “This is really just an agreement to do two things. One, work together in a formal manner, and two, to develop a mechanism to share information of a certain nature.”

“While these are two pretty significant steps, they don’t speak to the security market being revolutionized anytime soon,” he says. “That being said, the member companies do deserve credit for putting aside their competitiveness with one another (or at least a measure of it) for the sake of their collective clients.”

by Joanna Safford

FEATURED PRODUCT

Affordable Fire Suppression

Victaulic’s Vortex Fire Suppression System Uses A Water-Nitrogen System That Costs Less & Reduces Downtime

by John Brandon

FIRE SUPPRESSION is a serious issue for data center managers—one that involves the complexities of protecting data center equipment, installation and engineering plans, and compliance with industry regulations as well as building maintenance and expansion plans. In many ways, the concept goes well beyond the realm of the technical, yet it has close ties with data center operations; after all, it’s the servers, storage, and networking gear that need safeguarding.

For many SMEs, the complexities mean outsourcing all of the fire suppression planning and maintenance; however, one company’s fire suppression product is particularly well-suited to a small to medium-sized company.

Victaulic (www.victaulic.com)—named after a combination of the words “victory” and “hydraulic”—offers the Vortex Fire Suppression system, which is a hybrid water and nitrogen product designed to keep expensive IT equipment safe from fire damage. Deploying the solution in a data center means a fire will be extinguished quickly, yet the equipment is not damaged and can even be used immediately after suppression.

Zero Downtime

The Vortex system is designed for data centers that cannot afford to cease operations during installation periods, for upgrades, or after suppression. The Vortex system prevents downtime through its water and nitrogen system, which Bill Reilly, director of fluid control product development at Victaulic, says are only in the sub-micron size.

The water particles do not carry the same kind of “wetting” (where equipment is damaged after it gets wet) that a larger water particle carries, such as a sprinkler system with high wetting. Also, the water is introduced into a 40mph jet stream of nitrogen, which creates a wide arc of suppression at a higher discharge than other suppression techniques. Because the high-velocity discharge suppresses fire without causing water damage to equipment,

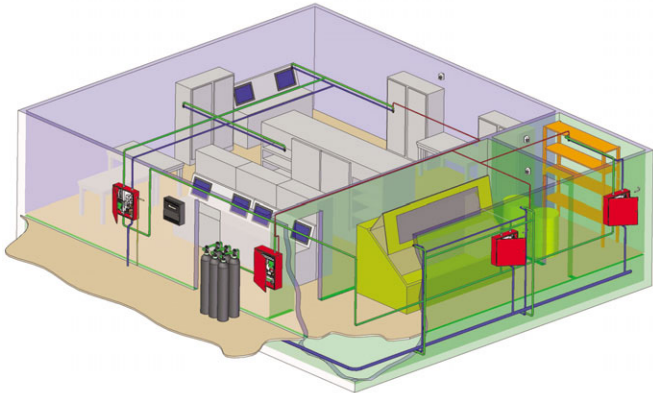
managers can resume operations almost immediately after a fire, leading to smoother operations. Additionally, Reilly says the Vortex system does not require that people be out of the room, and Victaulic has shown tests where the suppression system was used on running equipment.

“We do not even require equipment to be shut off,” says Reilly. “That is important, especially when you have a server controlling [the computing operations] at multiple locations.”

Reilly says that another advantage to the product is that after a discharge, the recharging process does not cost nearly as much as other fire suppression systems, such as gas- or water-based systems.

Ease of upgrade is also a compelling factor for SMEs with data centers on an office floor or in an older building or for those that are building new data centers and cannot afford to leave an area open for expansion and want more flexibility in how the data center is arranged initially.

“If you have a computer room on the third floor and you wind up in a building where you want to add a computer room in another floor, you can add a control



This data center diagram shows the nitrogen supply, piped-in water supply, low-pressure piping to pendent, and control boxes of the Vortex system.

panel to existing piping and it really would have minimal impact on the initial costs,” Reilly says. “It’s easy to expand the system, and there are no limits to how many units can be attached. Even in a brand new construction, someone will decide some wires need holes through a wall and they forget to do a proper enclosure of the room.” Reilly adds that the Vortex system can accommodate those situations where expansion becomes necessary.

Room Integrity Issues

For smaller companies, the Vortex can ease the need to ensure “room integrity,” or how safe and sealed off a room is from gas leakage. Often, a smaller company cannot afford all of the requirements to sufficiently seal a room for fire suppression as is necessary in more expensive enterprise-class systems. With the Vortex system, room integrity is not required because the water-nitrogen systems allow fires to be extinguished in open, naturally ventilated areas rather than needing to be sealed off.

Victaulic Vortex Fire Suppression System
(877) 986-7839
www.victaulic.com

Description: A fire suppression system that uses a fine mist of water and nitrogen to suppress fires. The Vortex is easy to maintain, recharges quickly, and protects equipment from damage and downtime.

Interesting Fact: Victaulic’s Vortex solution features a green design that is not only safe for personnel but for the environment, as well.

“Room integrity can degrade over time. It might be impossible to get a room tight enough,” says Reilly, who says room integrity issues lead to higher recharging costs and are often difficult to manage and maintain, especially after a fire. The Vortex system alleviates these concerns.

Installation Options

Another issue that plagues fire suppression systems is the high cost of installation. With other systems, there are complex decisions related to placement of the system; in some cases, when a company decides to expand a data center, it might mean installing a completely different system. With the Vortex system, Reilly says most of the up-front decisions have to do with fire detection, which is the process of determining the level of a fire and whether the fire suppression should be discharged.

This typically involves working with an engineer to determine the number of emitters required for discharge, given the size of the data center, and whether you want to detect smoke levels. Some systems can even analyze smoke particles to determine whether a fire is spreading in the entire data center or if it’s contained and whether there is a “false fire” or a serious threat.

Reilly says the Vortex system can be modified such that there is a hold switch at the door so that personnel could decide to hold suppression, verify whether there is a fire (for example, whether it is just a card in a server that is smoking), and still escape from the room without harm.

Another benefit to using Vortex is that the charging system can be installed outside of the data center and has self-monitoring capabilities that notify you when the nitrogen or water levels are low.

This flexibility, ease of installation, and expandability is a major benefit for data center managers who are overwhelmed by the complexity of planning for disasters or who do not have the expansive budgets of a larger enterprise and thus cannot outsource all disaster prevention. In the end, it means the suppression does not lead to an operational, logistical, and financial nightmare. ■

Visit us at **Data Center World** to learn more about the MaxIQ SSD Cache Performance system and other Adaptec products.

Lower TCO, Higher Performance

Adaptec MaxIQ SSD Cache Performance Kit Improves Application I/O

by Seth Colaner & Corey Russman

• • •

“TOTAL COST OF OWNERSHIP” is often the name of the game in today’s data center, and IT managers are always looking for means of lowering TCO as they require high performance and scalability.

Adaptec’s MaxIQ™ SSD Cache Performance Kit is designed to accelerate the performance of application I/O by up to five times that of traditional hard disk drive-only arrays, all while lowering capital and operating expenses. It does so by using less hardware to generate greater I/Ops, which reduces the need for additional hardware as companies scale upward.

The kit is Adaptec’s next step in its data conditioning capabilities, which include unified platform management,

zero maintenance, power management, intelligent data routing, and data protection, all between the I/O of servers and storage.

Large-Scale Apps

If your enterprise is like most, you run any number of large-scale applications, including databases, Web servers, file servers, and email. MaxIQ can be of great benefit for such read-intensive applications. In benchmark tests, the MaxIQ SSD Cache Performance solution provided:

- **Up to 11X performance improvement** in small block random read workloads
- **Up to 5X performance improvement** in Web server workloads
- **Up to 5X performance improvement in application response times** in a Web server application environment

- **Up to 2X the number of users** with improved response time in a real-world Web server application environment

How does it do this? MaxIQ SSD Cache Performance Kit works with Adaptec Series 2, Series 5, and Series 5Z storage controllers for SATA and SAS drives and combines the best of both solid-state and hard disk drives into a technology called High-Performance Hybrid Arrays. With MaxIQ, you will benefit from SSD’s higher read bandwidth, higher I/Ops, and greater mechanical reliability and worry less about the weaknesses of SSDs, including limited capacity and lower streaming write bandwidth.

The kit combines Intel®-powered MaxIQ solid-state cache drives with MaxIQ SSD Caching Software, virtually eliminating the potential for bottlenecks between CPUs, memory, and storage.

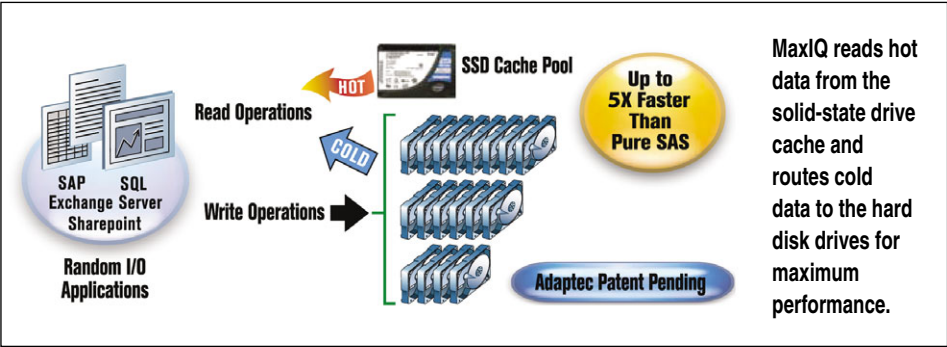
By leveraging an SSD-based caching architecture, the kit is application-agnostic and avoids any need to change storage architectures, application software, or OSes. The kit is designed for seamless integration into any industry-standard platform.



With a High-Performance Hybrid Array and MaxIQ SSD Cache Performance solution, you’ll benefit from:

- **Reduced capital expenditures.** Increase the number of transactions and users hosted per server and lessen the need for additional equipment.
- **Reduced operating expenses.** By deploying fewer servers and storage systems, you can cut maintenance and energy costs.
- **Uncompromised data protection.** All data is stored on hard disk drives with data protection algorithms; data stored in the SSD cache is simply a copy of stored data.

- **Simplified integration.** No application-specific tuning, software rewrites, or user intervention needed.
- **Improved SSD consistency and reliability.** Data is written to the hard drive and copied to SSD only when there’s a potential benefit to the application, reducing wear on the SSDs



Learned-Path Algorithm

One unique feature of the MaxIQ system is its use of Learned-Path Algorithm technology, which recognizes data that is frequently read and replicates it in an SSD cache so it can retrieve the data even faster when it’s requested. With MaxIQ, you’re guaranteed maximum storage efficiency, as the software updates “hot” cached data on subsequent writes to the same blocks.

Adaptec MaxIQ SSD Cache Performance Kit

Lets you convert industry-standard servers into cost-effective, scale-out application storage appliances.

Starts at \$1,295

(800) 442-7274

www.adaptec.com/MaxIQ

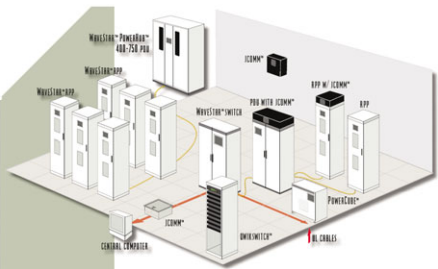
Integrate, Monitor & Control Data Center Power

PDI Introduces A Fresh Line Of Power Equipment

by Joanna Safford

• • •

POWER DISTRIBUTION and circuit monitoring are critical functions in a resourceful data center. In order for administrators to deploy mission-critical applications and maintain power to the proper devices, efficient equipment must be the standard. PDI



integrates these benchmarks into its latest offerings, PowerHub PDUs, PowerCube Transformers, and J-Comm Retrofits.

PowerHub PDUs

The PDI WaveStar PowerHub PDUs can save up to half the normal floor space and yield reduced energy costs compared to small, lower power transformers. To provide real-time load management data, they employ system level monitoring, output circuit breaker monitoring, and branch circuit monitoring (featuring current and voltage readings).

PowerCube Transformers

Engineered for data center, industrial, and commercial applications, PDI’s PowerCube high-efficiency intelligent transformers incorporate into the data center system via WaveStar monitors. The transformers can be easily accessed through their hinged front ports, support adaptable output designs, and are available from 15kVA to 1Mva.

J-Comm Retrofits

PDI’s J-Comm Retrofits incorporate the company’s BCMS (Branch Circuit Monitoring System). Up to four equipment distribution preferences are available that facilitate BCMS reports for voltage monitoring and local settings: under floor, existing RPP, existing PDU, or on a wall.

PDI Updated Product Line

Updated products cover power distribution, transformers with real-time power quality monitoring, and retrofits with a Branch Circuit Monitoring System.

(800) 225-4838
www.pdicorp.com



Listening To Its Customers

Rackmount Solutions Focuses On Product Innovation, Operational Excellence

LOTS OF MANUFACTURERS have great ideas. Rackmount Solutions takes those ideas a step further, listening to the needs of data center and IT managers and designing superb-quality, high-performance products that provide a solid value.

Air-Conditioned Server Racks

Not every enterprise has a cooled, raised-floor data center. Rackmount Solutions’ self-contained air-conditioned server racks provide the solution. These racks are also useful in contaminated environments where dirty air is a problem for delicate equipment. The racks range in height from 24U to 48U, with depths of 24 to 42 inches.

Keep your equipment cool and comfortable by selecting from rackmount A/C units up to 10K BTU or sidemount units up to 20K BTU. Features include locking plexi or solid front doors and three sets of universal rack rails for maximum flexibility. Units are portable with casters and leveling feet.

These air-conditioned racks also offer the flexibility of extra cooling for specific equipment in one or two racks. The units feature a drip pan evaporation system similar to a refrigerator, or you can connect the unit to a ducting system. Units start at \$3,420.



Soundproof Enclosures

Rackmount Solutions developed the AcoustiQuiet series of sound-dampening racks and imports the Ucoustic series. These units will remove up to 28.5dBA of sound and exhaust 7.2kW of heat. Ucoustic can be used in place of an air-conditioned rack, gaining both serious sound reduction and heat buildup dissipation. With soundproof enclosures, there’s no need to invest in a small data center. And office productivity automatically increases: No more headaches from noise or miscommunication because you couldn’t have a telephone conversation.

The AcoustiQuiet series is available in sizes from 24U to 48U and depths of 24 to 42 inches. The Ucoustic enclosure is available in 12U, 24U, and 42U.



Rackmount Solutions

Offers a line of data center racks and enclosures, including air-conditioned and soundproof units.

(866) 207-6631

www.rackmountsolutions.net

PRODUCT SPOTLIGHT

Hosted Security Services

Although it may seem counterintuitive to outsource security functions such as antivirus, antispam, and intrusion detection, it can actually make a lot of sense for your data center.

It is often more cost-effective to use a hosted service for your security needs than to invest in capital purchases and potential overtime, for one thing. It's also nice to know in advance what you'll be paying each month and to have the option to quickly expand your subscription as needed. Plus, with a reputable service, there's little question that you'll have the necessary security expertise and the latest technology on your side.

Here is a look at some of the more prominent hosted services and software-as-a-service offerings on the market.

ANX OfficeScreen Complete

ANX OfficeScreen Complete is a fully managed SaaS that is designed to be a complete, scalable security solution that supports five or more IP addresses. It provides continually updated protection for internal, remote, and wireless access point connections. OfficeScreen Complete includes a managed firewall, secure wireless access, site-to-site VPN, and remote access security. It also features internal failover support in case of connection problems, plus traffic-shaping capabilities and a URL filter. In addition, OfficeScreen Complete helps your enterprise comply with HIPAA, Sarbanes-Oxley, GLBA, and PCI regulatory requirements.



Best For: Enterprises seeking a SaaS solution for regulatory compliance and security for internal and remote users.

Price: Starts at \$78 per month

ANX PositivePro

PositivePro is a fully hosted SaaS that offers rule-based corporate file access to designated groups of remote employees and partners. Users are dynamically authenticated in real time, and the service attenuates traffic to your organization's firewall by weeding out threats via endpoint security checks. The scalable service comes with live technician chat as well as general help desk support, plus oversight of remote connections. It also features an intuitive interface that makes remote access easy.

Best For: Remote users who need continuously monitored access and live tech support.

Price: Starts at \$199 per month

(877) 488-8269 | www.anx.com

Greenview Data RestorEmail

RestorEmail is a SaaS solution that not only filters incoming email messages but archives them in three different locations for disaster recovery and regulatory compliance purposes. You can also tweak it to archive intradomain and outbound email according to your organization's needs. Even if your company mail server goes down, your enterprise will still be able to send and receive email through the service. Besides content and data loss protection, RestorEmail also provides fast search capabilities so you can find particular messages in a hurry when you need to. Greenview Data backs the service with 'round-the-clock support. There's also a lighter Business Continuity Edition of the service with a 30-day archival period available for \$1 per user per month.

Best For: Any organization that must archive email for continuity and legal reasons.

Price: \$45 for 10 users for one month (Email Archiving Edition)



(800) 458-3348 | www.greenviewdata.com

Cisco IronPort Hosted Email Security

Cisco IronPort's Hosted Email Security SaaS offering provides antispam and antivirus protection entirely through Cisco's data centers. This cloud-based service offers the reliability of host sites that are redundant and spread across several regions. Hosted Email Security helps enterprises with 1,000 or more employees comply with data regulations while guarding against DDoS attacks, malware, and fraud. The company claims a false positive count of less than one in a million and antispam efficacy of greater than 99%.

Best For: The large enterprise looking for rapid scalability, reduced rack-space occupancy, and lower TCO.



Cisco IronPort Hybrid Hosted Email Security

A combination of SaaS and managed service, Cisco IronPort's Hybrid Hosted Email Security matches an onsite appliance with cloud computing. The result has many of the benefits of a hosted solution but with greater user control over sensitive data. LDAP integration and data loss prevention is handled onsite through the encryption-capable appliance, which offers control over outbound messaging. The hosted service on Cisco IronPort's infrastructure handles antispam, antivirus, and other duties for the influx of received mail. Users can control both local and hosted resources through a common interface.

Best For: Enterprises with more than 1,000 users that require granular control over outbound messages.

Cisco IronPort Managed Email Security

As the name implies, Cisco IronPort's Managed Email Security gives the enterprise somewhat hands-off help with the management and maintenance of messaging security. With an onsite mail transfer agent appliance backed by professional remote monitoring, this service is ideal for big companies that need to keep their data in-house. Managed Email Security provides users with DLP, antispam, and anti-malware features similar to those of Cisco IronPort's hosted solutions, while leaving the client firmly in control.

Best For: Large organizations that want to delegate only a portion of antispam/antivirus maintenance to a professional service.

(650) 989-6500 | www.ironport.com

MessageLabs Hosted Email Anti-Spam Filter & Email Anti-Virus Protection

Now a part of Symantec, MessageLabs hosts email-cleansing technology for large enterprises as well as smaller companies. Its Hosted Email Anti-Spam Filter and Email Anti-Virus Protection are a complementary pair of services that provide multilayered protection from junk messages that could waste your organization's network bandwidth and/or endanger its security. MessageLabs claims 99% effectiveness for its Hosted Email Anti-Spam Filter, with no false positives. The company says that its Email Anti-Virus Protection comes with a service-level agreement covering all viruses, known and unknown. Completely hosted, these services require no user upkeep and no onsite space.

Best For: Enterprises of any size in need of an offsite, no-maintenance shield.



MessageLabs Hosted Web Security & Content Filtering Service

This service comprises thorough antimalware features and URL filtering on a geographically diverse, hosted platform. With your company's rules regarding acceptable Web access for particular users, groups of users, or even the time of day, MessageLabs will screen the sites your employees can access. Likewise, it will also check Web pages and third-party products for malware with its own Skeptic system and then block any digital offenders. Both kinds of protection are in effect for employees using the network remotely, too.

Best For: Any enterprise with Web usage policies.

MessageLabs Hosted Email Archiving Service

MessageLabs' Hosted Email Archiving Service assures organizations large and small that their email messaging systems have definite audit trails for compliance with legal discovery requirements. Because it's hosted, it spares your business the overhead and maintenance of onsite resources, and its scalability gives you flexibility. Additionally, the monitored service is highly searchable and configurable. The service also includes legal hold and confidentiality features, plus full-time customer support.

Best For: All enterprises subject to message retention regulations and backup concerns.

(866) 460-0000 | www.messagelabs.com

PRODUCT SPOTLIGHT

Compiled by Marty Sems

Trend Micro
Worry-Free
Business
Security



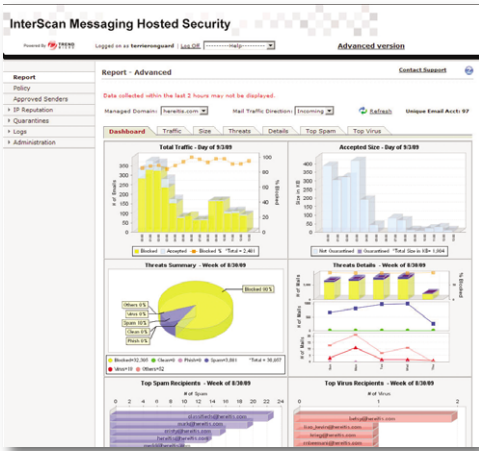
Designed to protect small to midsize enterprises' laptops and desktops, Trend Micro's Worry-Free Business Security Hosted is a centrally manageable protection suite with a single-installation design. Rootkits, bots, viruses, and other malware are not only detectable but removable with this service, Trend Micro says, and there's a firewall on each client. The company's Smart Protection Network is continually updated with the latest threat detection technology.

Best For: Small to midsize enterprises that don't want to bog down client PCs and notebooks with local security software.

Price: Starts at \$23.60, or \$314.80 for 10 users for one year

(888) 228-5651 | us.trendmicro.com

Trend Micro
InterScan
Messaging
Hosted
Security

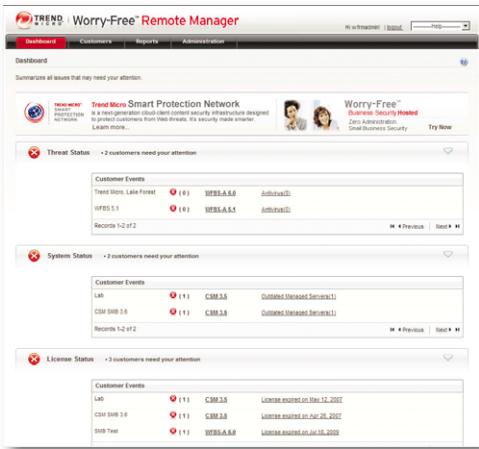


With a 99% success rate at blocking spam, phishing attempts, and email-borne malware, Trend Micro's InterScan Messaging Hosted Security will process any number of messages (up to 50MB per message) for a flat per-user price. There's the option of a plugin if your organization wishes to add policy-based encryption support. You can also opt for content filtering to protect critical data and help your enterprise adhere to related regulations. Trend Micro offers a service-level agreement to ensure you get the support and updates your company needs.

Best For: Medium-sized to large enterprises.

(888) 228-5651 | us.trendmicro.com

Trend Micro
Worry-Free
Remote
Manager



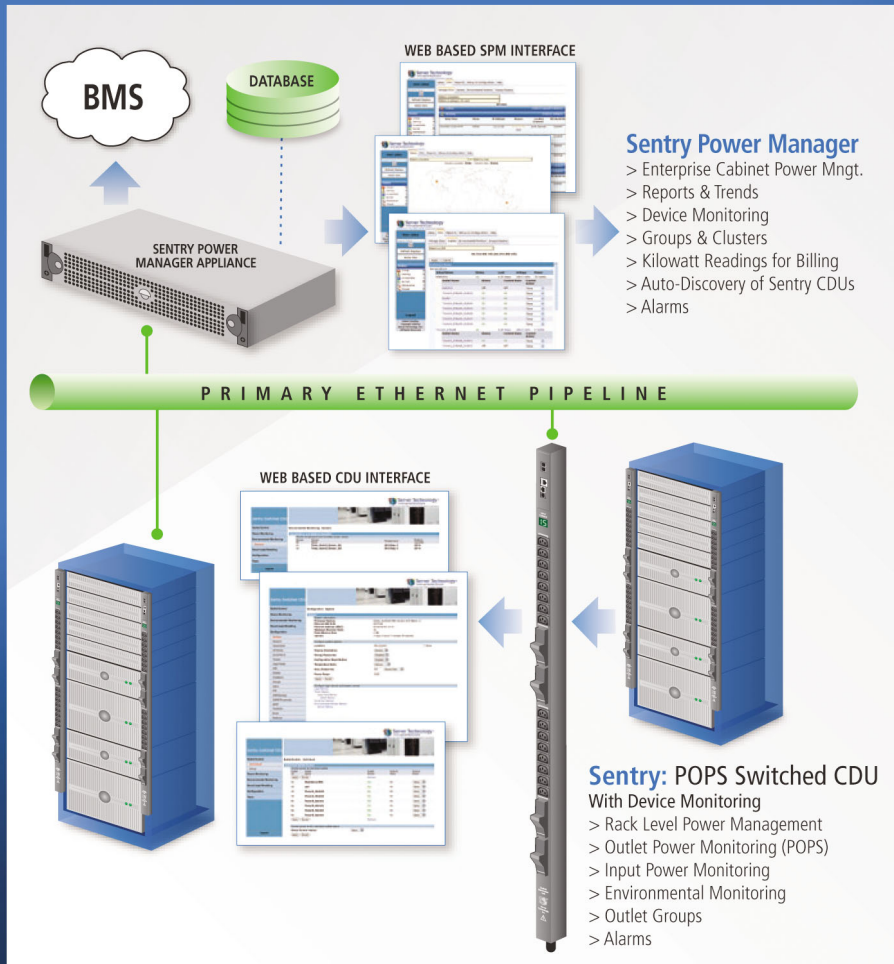
Trend Micro's Worry-Free Remote Manager is a dashboard designed for resellers of the company's services that can handle many hosted Worry-Free Business Security and InterScan Messaging Hosted Security customers all at the same time. Worry-Free Remote Manager is intended to reduce the expense of growing your business as you add customers to your list. With flexible scalability, it allows you to keep tabs on their status, their threat situations, and even the currency of their security licensing.

Best For: Resellers serving small to medium-sized enterprises.

Price: Free

(888) 228-5651 | us.trendmicro.com

How Do You Measure the Energy Efficiency of Your Data Center?



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See What's Happening
On Your Network

Network Critical Smart Network Access System
Offers Unprecedented Flexibility

by Kristina Glaser

NETWORK CRITICAL'S Smart Network Access System is designed to meet the network accessing needs of any company's network infrastructure. Available in three distinct chassis styles, including a



Smart Network Access System is available in a portable, 1U, or 2U chassis.

portable chassis, a 1U chassis, and a 2U chassis, the SmartNA System can be configured for virtually any infrastructure based on an enterprise's specific requirements. Each chassis is compatible with Network Critical's SmartNA hot-swappable TAPs.

"No other access solution available offers the same amount of flexibility," says Anne McKenna, Network Critical's marketing manager. "Each module can also be configured to perform many different functions, such as aggregation or regeneration, allowing more functionality in one product than the competition," she says.

The SmartNA System incorporates filtering and Web interface features. The filtering upgrade lets users apply various

filters, including Layer 2, 3, and 4, to data that passes through the TAP, allowing for visibility of only the traffic you want to see.

The new Web interface can be used to configure Breakout, Aggregating, or Regenerating TAP modules and set up features such as Failsafe Mode, Link-Lock Mode, or Link Failure Propagation. McKenna says the Web interface is extremely intuitive. "Small to mid-sized businesses will find the Web interface very useful," she says.

The upgrade will also let users set up various SNMP traps, including linkup/down, temperature of modules, and traffic thresholds, and it can send alerts when events occur on attached network tools.



Network Critical
The Window to your Network™

Network Critical Smart Network Access System

A flexible network accessing solution that now offers filtering features and an intuitive Web interface.

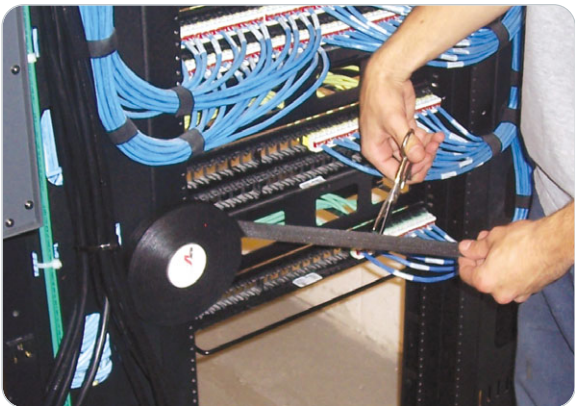
Starts at \$5,200

(716) 558-7280

www.networkcritical.com

PRODUCT SPOTLIGHT

Underfloor Cable Management



Cable Ties & More Qwik Tie Tape With Dispenser

Featuring a uniquely designed core, Cable Ties & More's Velcro Qwik Ties offer a convenient and cost-effective method to bundle wires and cables. The Qwik Tie's core is designed to adhere to ladders, the sides of cabinets, and other materials to provide workers easy tape dispensing. The tape consists of a hook material on one side and a loop on the other that allows for wrapping wires, cords, and cables in a quick and efficient manner. The Velcro Qwik Ties can be opened and closed as many times as needed.

- Easy to use: cut desired length and apply
- Economical and cost-effective cable management
- Ideal for all application types
- 25-yard roll sizes
- Black color
- Operating range of 0 to 220 degrees Fahrenheit

Best For: Fiber-optic cord and cable management.

Price: \$18.75

(877) 284-7760
cabletiesandmore.com

Cable Ties & More Large Capacity Hinged Cable Raceway

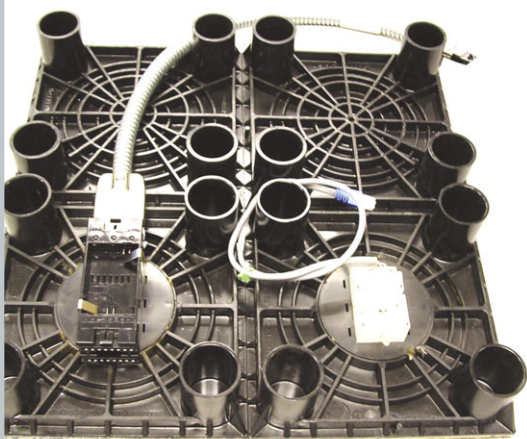
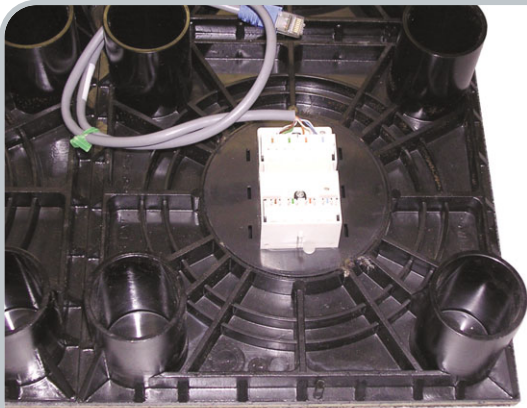
Surface cable raceway systems, such as Cable Ties & More's nonmetallic Hinged Cable Raceway wiring enclosure system, provide an attractive method for concealing wires in various settings and are particularly useful when drilling into walls or ceilings isn't an option. The company's line of extruded raceways includes an assortment of accessories, including preapplied adhesive backing, fittings, and interior and exterior corners, so Cable Ties & More can customize to meet your specific wire management needs. The company's 1125 series of latching raceways are designed to accommodate larger-diameter cables. All Cable Ties & More surface raceway parts are constructed of lightweight but durable UL 94-VO-compliant, flame-resistant PVC that users can cover with Latex-based paint.

- Triangular corner raceway blends into wall and ceiling junctions for a clean, finished appearance
- Fast and easy installation via hinged-cover design
- UL VO-94-compliant, flame-resistant PVC construction
- 0.75 x 1.5 inches, 5-foot section
- Available accessories include tees, inside corners, outside corners, couplings, and elbows
- White color

Best For: Users who need to hide wires in various locations, particularly areas where drilling into walls or ceilings isn't an option.

Price: \$9.97

(877) 284-7760
cabletiesandmore.com



CableOrganizer.com Powerflor Raised Floor Cable Management System

CableOrganizer.com's Powerflor is a complete low-profile, raised-floor cable management system that includes electrical power outlets and cabling, voice and data outlets and cabling, and modular carpeted chaseway floor. The conventional raised floor provides a horizontal space in which other building elements, such as wiring and air delivery, can be placed or used. The raised-floor approach also typically provides an additional contracting layer for the floor only.

- Modular design cuts installation time and costs and simplifies future alterations
- Standard 18- x 18- x 3-inch panels constructed of impact-modified polycarbonate material tested to support 41,000 pounds per square foot and includes 2 inches of height for cabling underneath
- Tool-less disconnections and reconnections of outlets
- Carpeted panels feature Volara foam underlay to prevent lateral movement and reduce noise
- Uses PVC-free materials
- Up to four duplex-power or data-outlet grommets per panel to accommodate any floor plan
- Complete flooring systems with prewired outlets and ADA-compliant entrance ramps available

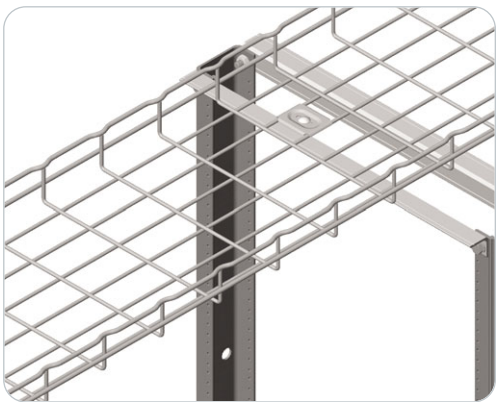
Best For: Call centers, computer training rooms, IT lab areas, schools, offices, conference rooms and centers, and areas where computer use is extensive and/or the churn rate is high.

Price: \$39.99 per 18- x 18-inch standard panel with foam; \$95 per 18- x 18-inch standard panel with foam with duplex power or data outlet

(866) 222-0030
cableorganizer.com

PRODUCT SPOTLIGHT

Compiled by Blaine Flamig



Chatsworth Products OnTrac Wire Mesh Cable Tray System

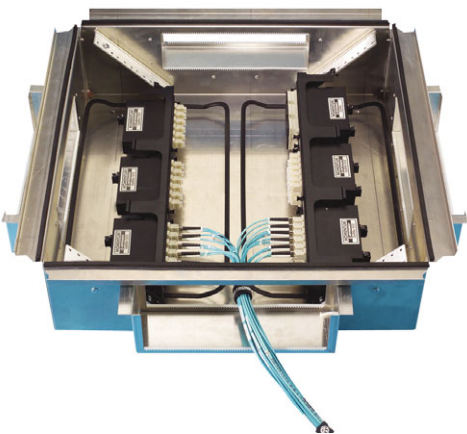
Chatsworth Products' OnTrac Wire Mesh Cable Tray System provides users a point-to-point pathway solution that both supports and distributes large quantities of cables to equipment cabinets and racks. In addition to being highly flexible, workers can position the OnTrac system under access floors or above drop ceilings, against walls, or on top of racks and cabinets. Additionally, the company's tray system can be cut and shaped to create transitions with smooth curves around building structures and obstacles.

- Supports large network cable loads with an easy-to-use pathway solution
- Ships in multiple widths and depths to match various requirements
- An open-top design enables easier future alterations
- Wide range of accessories available, including splices, clamps, and brackets
- UL-classified as an equipment ground conductor

Best For: Equipment rooms, office spaces, and data centers of any size.

Price: \$79.90 to \$190.40

(800) 834-4969
www.chatsworth.com



Ortronics OptiMo Raised Floor Fiber Patch Panels

Ortronics OptiMo raised floor fiber patch panels let data center managers and designers use underutilized installation space beneath the raised floor structure to provide greater flexibility in structured cabling design and maximize premium data center floor space. Designed specifically for installation in raised-floor enclosures that are part of the cabling pathways, the OptiMo raised floor fiber patch panels address the special bend radius and depth requirements of fiber optic cabling systems.

- Designed for under floor installation with integrated cable management
- 19 inches wide; 1U- or 2U-high models available
- Designed for installation within 2- x 2-foot under-floor box with angled mounting rails
- Removable, reusable labeling cards
- 1U patch panel has three 1U openings to accommodate Ortronics standard 615 Series adapter panels and/or 1U Momentum cassettes
- 2U patch panel has six 1U openings to accommodate Ortronics standard 615 Series adapter panels and/or 1U and 2U Momentum cassettes

Best For: Data centers where space is limited.

(800) 934-5432
www.ortronics.com



PDU Cables Air Guard Cable Seals Product Line

PDU Cables is the exclusive supplier of the Air Guard Cable Seal product line, which includes products that seal access holes required for routing cables through a data center's flooring. The Air Guard Cable Seal product family provides companies immediate energy savings because of the product's ability to significantly minimize cool air loss while improving the static pressure to cool data center equipment. This ability assists in preventing a company's expensive electrical equipment from overheating.

- Excellent seal around cables provides effective, economical means to eliminate bypass air through cable cutouts
- Reduces air loss in plenum-cooled floors
- Increases under floor static pressure
- Extends the life of cooling equipment
- Flexible and simple cable routing via removal of floor tiles without disconnecting equipment

Best For: Sealing any size of cable opening.

(866) 631-4238
www.pducables.com



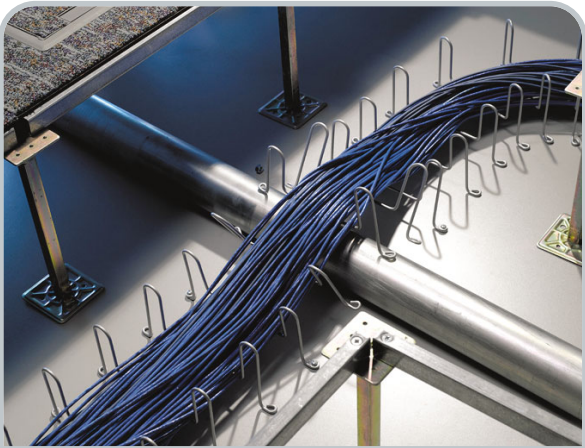
Snake Tray Snake Canyon Modular Cable Tray System

Snake Tray's Snake Canyon Modular Cable Tray System is designed so the system can immediately integrate with the structural elements already in place within a company's access floor, creating an under-floor cable management approach that drastically reduces installation costs.

- One-piece drop-in cable tray module
- Models are available for all floor types
- No additional hardware is required
- Trays are movable and reusable
- Tray design ensures proper airflow
- Power module accessories available
- UL-classified
- Low-cost shipping and easy handling

Best For: Government, retail, education, financial, industrial, and other industries needing cable management.

(800) 308-6788
www.snaketray.com



Snake Tray 101

The Snake Tray 101 system is a hand-bendable approach that installers can mount directly to the floor or suspend from the pedestals on an access floor. In addition to bending around obstacles in the floor, the trays install quickly with built-in mounting hardware.

- No onsite fabrication required
- Trays attach to each other using a single connector
- Easily mounts to the floor using built-in mounting rings
- Open-architecture design enables cables to be loaded from any direction
- UL-listed
- Low-cost shipping and easy handling

Best For: Government, retail, education, financial, industrial, and other industries needing cable management.

(800) 308-6788
www.snaketray.com



Upsite Technologies Koldlok Mini

The Koldlok Mini Raised Floor Grommets seal small openings in new and existing data centers to optimize existing cooling equipment and manage heat loads. Measuring 4 x 6 inches, the patent-pending thermal management Grommets give installers a handy way to split power and data cabling to minimize interference and also move floor tiles without capturing cables. The Grommets improve existing cooling unit capacity, reduce equipment hot spots, and lower infrastructure costs. Each Grommet has 13,200 opposing, angled, and intermeshed nylon filaments that block up to 98% of bypass airflow.

- Filaments and frame meet UL V0 standards
- Sits flush with raised-floor or other panel surfaces
- Available with and without static dissipation
- Static-dissipation feature integrates with raised-floor static grounding system to provide 1-gigaohm resistance

Best For: Sealing small cable openings in new or existing data centers and for cost-effectively splitting power and data cabling.

(505) 982-7800
www.upsitetechnologies.com

PRODUCT SPOTLIGHT

Data Center Server Racks & Cabinets



42U Liebert Server Racks

42U's Liebert Server Racks allow for easy, flexible mounting of 19-inch servers and accessories. Perforated doors with an 83% open area offer optimal thermal management and reduce obstructions to airflow with a complete cable management system. Liebert Server Racks are designed with two goals in mind: optimizing airflow and maximizing usable mounting space.

- Easy-to-move with a lightweight aluminum frame
- Tool-less shelves and cable management on frame
- Doors open to 180 degrees for easy access to components
- Available in 42U or 47U, with 24- or 32-inch widths and 40-, 44-, or 48-inch depths

Best For: Data centers, network closets, and telecom equipment.

(800) 638-2638
www.42u.com



CableOrganizer Hoffman COMLINE OSP Wall Mount Cabinets

Hoffman COMLINE OSP Wall Mount cabinets are made of tight-sealing aluminum that provides years of protection for outdoor telecom equipment. With features such as foam environmental seals, top-mounted solar shields, continuously welded seams, air conditioner/heat exchanger gland plates, and a rugged urethane powder-coat finish, COMLINE OSP cabinets can ward off damage from wind, rain, chemicals, and dust.

- Designed to NEMA's 3, 3R, 4, 4X, and 12 standards
- Rack angles can be adjusted from front to rear
- Top-mounted solar shield keeps the cabinet's interior cool and directs water away from its opening
- Padlocking L-handle secures and tightly seals the cabinet's door
- Ground bar and rear-mounting studs included

Best For: Rack-mounting telecom equipment for DSL, fiber distribution, and other applications in harsh outdoor environments.

Price: Starts at \$1,604
(866) 222-0030
www.cableorganizer.com



CableOrganizer Co-Location Floor Enclosures

Co-Location Floor Enclosures feature three separate locked, individually keyed compartments, letting you secure and limit access to your IT equipment in shared server room applications. The enclosures feature individual cable access points and internal rails that are adjustable by section, letting each user access and customize her respective section without breaching or disrupting the other users' designated spaces.

- Each section is individually keyed and accessed via its own door
- Individual cable access points and adjustable rails in each compartment, so you can still customize while sharing space
- Ships fully assembled
- Includes two ventilation fans
- TIA/EIA 310D compliant

Best For: Securing equipment in shared server room situations or allowing limited equipment access to service providers in private server rooms.

Price: Starts at \$1,441.28
(866) 222-0030
www.cableorganizer.com

Hergo Jupiter-CoLo Enclosure (P.N. 95-JUPIT-000)

Hergo's Jupiter-CoLo multicompartment Co-Location Cabinet is 42U, 24 inches wide and 36 or 42 inches deep. Split-Level Louvered Glass Doors come equipped with Swing Handle Locks, essential for this type of environment where added security is crucial. Each cabinet can be customized with a variety of shelving, cooling fans, power, and cable management.

- Base frame with removable, locking bottom louvered side panels and front and rear sectioned doors with handle lock
- Lock can be upgraded to a combination lock model
- Includes eight 21U mounting rails and four casters (two locking and two nonlocking)
- Meets EIA specifications and accommodates all major servers and peripherals



Best For: Shared server rooms where you need to limit access to authorized users.

Price: Starts at \$1,475
(888) 222-7270
www.hergo.com

IMS/AMCO 3G Series Adaptive Server Racks

3G Series server racks by IMS/AMCO Engineered Products adapt to meet the specific needs of varied IT environments and applications. The Pre-Configured Series offers commonly requested consoles with or without side panels, while the Build Your Own models can be configured and custom-built based on individual requirements. Expanded frame heights and depths are available for high-density cable and cooling requirements.

- Welded frame design features a static load rating of 3,200 pounds and dynamic load rating of 2,100 pounds.
- Vented doors offer maximum front-to-back airflow and high-density thermal solutions for larger heat loads
- Adjustable mounting channels feature square holes for M6 hardware mounting and individually numbered RUs
- Full line of expanded vertical and horizontal cable raceways, power distribution, and cooling options



Best For: Data centers in need of a preconfigured rack to save on building time or a custom-built rack to meet individual requirements.

(847) 391-8100
www.imsep.com

NER Data Products' Ultimate Core High Density Cabinet

Highly scalable in size and function, NER's Ultimate Core enclosures accommodate high-density equipment along with high-density power and cabling requirements. Ultimate Core enclosures are available in multiple heights, widths, and depths and can be customized to meet specific customer requirements.

- Available in 24- and 30-inch widths with optional high-density cabling side cars
- 80% perforation options for doors and top panels
- Ships with Van Line service and minimal packaging/waste to help with green focus
- Factory and onsite integration and support available

Best For: Data centers that require high-quality, scalable cabinet solutions designed to house multivendor technologies, including blade servers and network switches.

Price: Starts at \$2,500 for a well-equipped 44U 24- x 42-inch Ultimate Core Cabinet
(888) 637-3282
www.nerdata.com



PRODUCT SPOTLIGHT

Compiled by Kris Glaser



Rackmount Solutions Air Conditioned Server Cabinet

Rackmount Solutions' Air Conditioned Server cabinets have built-in air-conditioning units with 4k, 7k, 10k, or 20k BTUs to help protect equipment in warm or dirty environments, such as shops and warehouses. Units are available from 14U to 48U, with depths from 24 to 42 inches.

- Compatible with all leading servers, including blade servers
- Protects expensive equipment from overheating
- Can be paired with a rackmount or side-mount A/C for more space

Best For: Data centers and standalone applications with heat problems.

Price: Starts at \$5,633
(866) 207-6631
www.rackmountsolutions.net



Rackmount Solutions 4-Post Adjustable Open Frame Rack

The 4-Post Open Frame Rack by Rackmount Solutions is a versatile rack offering flexibility and ease of use. It can adjust from 21.2 to 35 inches deep and comes with a free set of adjustable angle brackets that securely support shorter equipment. The 4-Post Rack is available in 24U and 42U sizes.

- Open frame design for ease of cabling and optimized cooling
- Adjustable depth prevents obsolescence when equipment changes
- Free angle brackets allow multiple-depth mounting of equipment

Best For: Data centers or standalone installations where increasing server density and reducing rack costs while maintaining working efficiency are important.

Price: \$399
(866) 207-6631
www.rackmountsolutions.net

Rackmount Solutions Soundproof Server Rack

Soundproof Server Racks from Rackmount Solutions reduce external sound up to 28.5dBa while dispersing internal heat loads up to 7kW. Built-in casters make it easy to move these servers to another area when the need arises. The Soundproof Racks are available in active and passive versions and in 12U, 24U, and 42U sizes.

- Compatible with all leading servers, including blade servers
- Increases productivity as employees are able to concentrate and better communicate
- Cuts down on workman's comp claims and OSHA problems because of excessive noise

Best For: Data centers and standalone applications needing to reduce noise in the work environment.

Price: Starts at \$4,149
(866) 207-6631
www.rackmountsolutions.net



Rack Solutions 4 Post Open Frame Rack

The 4 Post Open Frame Rack by Rack Solutions is a 50U tall rack that increases storage capacity up to 30%, making it both economical and efficient. Smart PDUs provide integrated cabling and power management, while the elimination of front and rear doors creates an open design that optimizes ventilation. The 4 Post Open Frame Rack can be customized with features such as tailored top and floor mounting configurations to match RackSpace flooring.

- Open frame design for optimized air cooling
- Convenient U markings aid in equipment installation
- Custom cable bars improve cable management and enhance PDU access

Best For: Data centers interested in increasing server density, reducing rack costs, and reducing cable installation time.

Price: Starts at \$499
(903) 453-0801
www.racksolutions.com



Server Racks Online Vented Server Cabinet

Server Racks Online's 19" 27U and 42U Vented Server Cabinets have two fully vented doors, providing maximum ventilation. Vented Server Cabinets ship with lockable/removable side panels, casters, levelers, and two sets of vertical rails that can be adjusted in 1-inch increments.

- Can be equipped with up to four 4-inch fans for additional ventilation
- Top and bottom cable slots can be removed
- Features cage-nut-style mounting rails
- Currently eligible for free dock-to-dock ground shipping
- Maximum weight capacity of 1,300 pounds

Best For: Data centers in need of a little extra cooling help.

Price: Starts at \$1,110 for the 27U version and \$1,315 for the 42U version
(866) 722-5776
www.server-rack-online.com



Server Racks Online SharkRack TigerShark 2 Bundle

The SharkRack TigerShark 2 Bundle offers a variety of configurations to match your needs. The basic unit starts with a black 42U SharkRack T2 enclosure that measures 37 inches deep with quick-release doors and a vented top panel. Additional optional accessories include slide rails, fixed shelves, and blanking panels.

- Compatible with equipment from multiple vendors
- Mounting depth can be adjusted to fit needs
- Doors, top and side panels, PDUs, and other devices feature tool-less integration
- Can manage loads up to 2,500 pounds

Best For: Data centers that need customized racks to fit their unique needs.

Price: Starts at \$2,677.13
(866) 722-5776
www.server-rack-online.com

Integrated Circuits Get A Shot Of DNA

In an effort to reduce the costs involved in building ever-smaller tools and manufacturing processes to churn out integrated circuits in line with Moore's Law, a team of IBM scientists and California Institute of Technology researchers have turned to DNA. The problem the team hopes to solve is that as the semiconductor manufacturing industry begins to plan for a future of integrated circuits built at the 22nm scale and smaller, conventional lithographic technology becomes prohibitively expensive to scale down.

IBM suggests that one potential solution to the shrinking problem is to use DNA molecules as a kind of scaffolding, upon which carbon nanotubes can be arranged. Caltech created its custom DNA structures, called DNA origami, by introducing a DNA molecule to a long strand of viral DNA and a solution of varied short synthetic oligonucleotide strands, which react and self-assemble into predetermined shapes, such as triangles, stars, and even smiley faces. According to IBM's Greg Wallraff, the researcher who led the DNA scaffolding work, "DNA scaffolds can, in principal, be used as templates for the construction of transistors using a bottom-up self-assembly method at very small dimensions." These microscopic circuit boards could then be used to support more carbon nanotubes, nanowires, and nanoparticles that would make up new kinds of transistors, which are the basic building blocks of semiconductors.

Is DNA The Answer?

According to Wallraff, "It's hard to say whether these methods will be used in semiconductor manufacturing. Our experiments describe an important first step in the development of this technology, and there is a great deal of further research required before this could be implemented." For the time being, conventional lithography techniques will still be used to make integrated circuits, and Wallraff says that manufacturers and researchers are looking at multiple more conventional lithographic techniques for fabricating semiconductors at dimensions below 22nm.

"These techniques . . . are much simpler to implement than the self-assembly approach we are investigating. Consequently, DNA scaffolding would most likely be employed if and when conventional lithographic scaling can no longer be used to fabricate the smallest features required for high performance." But Wallruff doesn't understate DNA's potential applications, either: "Of course, the self-assembly method might be used to make different types of devices that we haven't even thought of yet."

by Andrew Leibman



FEATURED PRODUCT

StoneFly's Voyager IP SAN Lineup

Scalable, High-Availability Data Without The Sticker Shock

by Joseph Pasquini

STONEFLY HAS DEVELOPED an assortment of IP-based SAN concentrators especially for those small to medium-sized enterprises interested in iSCSI applications such as storage consolidation, host virtualization, business continuity, disaster recovery, disk-to-disk backups, and archiving.

At the heart of StoneFly's (www.stonefly.com) storage lineup for this particular market segment is the Voyager IP SAN. The Voyager was designed by StoneFly to offer active/active controllers, improved redundancy, high availability, and fast performance—all at a lower price point for today's cost-conscious SMEs.

Since its founding in April 2000, StoneFly has evolved into a prominent manufacturer of high-performance NAS, SAN, RAID, and iSCSI storage systems for workgroups, departments, and midtier organizations. In addition to being a member of the Storage Networking Industry Association, StoneFly is also a founding member of the IP Storage Institute and is considered one of the earliest vendors in the iSCSI product space. StoneFly is a subsidiary of Dynamic Network Factory, which is a privately held California-based data storage company.

Achieving Storage Zen

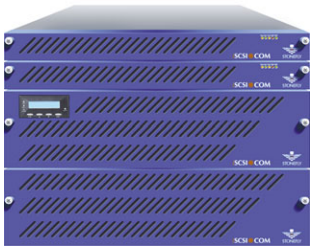
According to Dick Cecchini, StoneFly's senior sales engineer, the concept for the Voyager was derived from the company's desire to deliver a robust and scalable SAN appliance that wouldn't break the bank.

"The baseline strategy for StoneFly offerings includes data protection through RAID technology, redundant power supplies, multipathed iSCSI connections for MPIO and load balancing, and the patented StoneFusion operating system," explains Cecchini. "The StoneFly family of storage appliances has always been upward-compatible from the single-controller solutions to those offering high availability such as the Voyager."

The Nuts & Bolts

Voyager's scalable quad-core processing architecture provides an SME the flexibility to start small with a minimum installation and later expand its SAN to scale up to hundreds of terabytes of tiered storage. In addition, its virtual server environment support extends to several third-party offerings, including Virtual Iron, Citrix XenServer, VMware, and Microsoft Hyper-V.

Featuring a dedicated 2GB command queuing cache, the Voyager storage appliance supports a mix of hot-swappable SATA-II and SAS hard drives as well as SSDs (solid-state drives). The Voyager offers a multitude of hardware RAID levels, including 0, 1, 0+1, 3, 5, 6, 10, 30, 50, and 60, and RAID configurations may be mixed within the same shelf. Battery backup is also incorporated. The rack-mountable 5U



base unit and the optional 3U expansion units can each support up to 16 devices; each Voyager IP SAN is scalable up to a combined total of 128 drives.

Volume-based encryption (AES-256) is available as an option for those organizations handling sensitive data as well as those entities looking to comply with both HIPAA and SEC regulations.

Each Voyager IP SAN comes standard with four 1Gbps Ethernet connections capable of being upgraded to 10Gbps. According to Cecchini, large file sequential reads top out at more than 950MBps over 10Gbps Ethernet networks. Port teaming, failover, and load balancing are all supported, and asynchronous replication and mirroring is also available as an option. System availability is further ensured via the Voyager's hot-swappable redundant power supplies, cooling fans, and controllers.

The storage subsystem found within Voyager IP SANs offers active/active clustering and high-speed redundant paths. In addition, No Single Point of Failure, or NSPOF, configurations are handled via StoneFly's RaidML technology. "Previously, NSPOF configuration required a doubling of drives in order to meet NSPOF requirements. NSPOF was essentially an all-or-nothing proposition," says Cecchini. "With RaidML, administrators may present NSPOF iSCSI volumes and still present other iSCSI volumes with RAID 5 or 6 protection. RaidML provides for extreme protection of mission-critical files and applications, in conjunction with general file storage, in the same storage shelf or aggregated across many shelves."

StoneFly IP SANs also offer backup agents that integrate with backup software, Microsoft's Volume Shadow Copy Services, and other applications to improve backup processes and data availability. In conjunction with StoneFly Snapshot, these agents quiesce the application server (and supported applications) so that the operating system is made aware that a SAN-based snapshot activity is occurring. During a snapshot, all disk activity is paused in order to ensure data integrity and eliminate errors related to disk access.

StoneFusion

The cornerstone of the Voyager is the award-winning StoneFusion operating system. Integrated into all members of the StoneFly IP SAN family, StoneFusion provides administrators with iSCSI mirroring, copy-on-write snapshots, replication, block-level provisioning, centralized management, and detailed performance reporting and related statistics.

StoneFusion also offers storage consolidation, rapid deployment of new storage, and SAN-based backup. Its storage provisioning capability can turn physical disks into either virtual storage units or logical volumes presented to the host as normal SCSI disks. StoneFusion also facilitates

advanced storage management functions, such as synchronous mirroring through StoneFly Reflection and Active-Active Failover Clustering.

"StoneFusion enables local and remote replication, synchronous and campus cluster mirroring, volume cloning and snapshots, volume-level encryption, simple expansion, scalability, and ease of use," adds Cecchini.

At its core, StoneFusion virtualizes physical storage resources into virtual volumes and enables advanced storage functions in a virtual network layer. With its layered approach, each Voyager IP SAN uses storage virtualization to create storage pools independent of the physical disk for enhanced redundancy and availability. Each storage pool can be tagged based on target applications including transactional data, secondary storage, archive data, and remote/campus storage.

In addition to being included with all StoneFly storage offerings, StoneFusion is also available on a variety of other hardware platforms and embedded systems.

No Apologies For Reliable Performance

According to Cecchini, StoneFly is unwilling to sacrifice its commitment to quality and performance for the sake of claiming that its product lineup is the cheapest in the marketplace. "This may sound cliché, but everyone claims that they have the 'fastest' product at the 'best' price," he says. "StoneFly does not have the least expensive product set because we value product development and support."

Cecchini concludes, "While StoneFly will never be in the same price league as an entry-level PC using unsupported free-ware, our storage appliances are indeed competitively priced per market segment. Our architecture allows for granular performance tuning in conjunction with a lower cost per gigabyte—all without sacrificing reliability."



StoneFly Voyager IP SAN
Appliances
(888) 786-6335
www.stonefly.com

Description: The Voyager Series of virtualized IP SAN appliances implement a variety of hard drive options; are compatible with multiple RAID levels; and feature the StoneFusion OS for mirroring, reporting, and management capabilities

Interesting Fact: The included StoneFusion 6 operating system integrates with Microsoft's Volume Shadow Copy Services for seamless snapshots.



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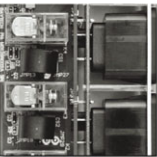
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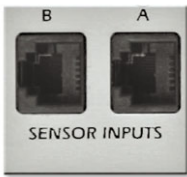
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Get Serious About Power

Packet Power Can Show You How

by Andrew Leibman

WITHOUT CONSIDERING POWER consumption, growing data centers can become energy black holes. Packet Power for Data Centers lets users measure, monitor, and manage energy consumption to develop a power plan that lets them cut costs, plan for future installations, and find and eliminate wasted resources.

Packet Power for Data Centers consists of patent-pending smart power cables that connect to virtually any powered device. The smart power cables deploy at device and rack level and are available in 110 to 240 volts, 10 to 60 amps, and single- or three-phase power, and they support most NEMA and IEC connector types.

The smart cable captures detailed power consumption data, such as peaks and sags, the amount of power consumed, and the quality of that power. The device transmits data over a secure wireless mesh network to a system running Packet Power's Power Manager software, where the data is collected for analysis and reporting. Users can view power consumption by resource type, location, application, or customer and even track temperatures to locate hot spots. Users can also create tailored



reports and send them via email, access them from a Web-based interface, or import the data into another management application.

The Packet Power system makes it easy to quantify potential cost reductions achieved through server decommissioning, virtualization, and storage consolidation or by using more energy-efficient components and servers. With Packet Power intelligence, users can limit data center expansion costs and delay expensive upgrades.

The latest version of Packet Power's Power Manager lets users easily configure the number and type of circuits in a rack, export data to other applications via SNMP, and generate alerts based on user-specified criteria. Power Manager 2.0 also features functionality enhancements and usability improvements.



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www.packetpower.com

FEATURED COMPANY

Enterprise Voice Systems On The Increase

Enterprise voice system sales in North America increased by 12% in the second quarter of this year, according to the Infonetics enterprise telephone market share and forecast report. The report tracks TDM PBX and KTS phone systems, IP PBX phone systems, IP phones, and VoIP gateways. On the flip side, sales of enterprise voice systems in the Asia-Pacific market were down 12%. Worldwide sales of PBX and KTS phone systems were up 1% year-over-year, and pure IP PBX phone systems were up 6% quarter-over-quarter. Shipments of IP phones grew by 4% in the second quarter.

EU To Investigate Oracle/Sun Deal

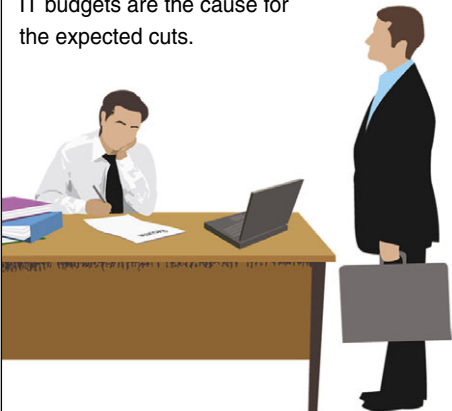
European Commission regulators have extended their investigation of Oracle's proposed \$7.4 billion takeover of Sun Microsystems. Regulators say the deal might not be compatible with European antitrust regulations. According to the commission, the acquisition could stifle the development of MySQL, an open-source corporate database software program owned by Sun, which competes with a similar product from Oracle. The commission says it will issue a ruling on the case by Jan. 19, meaning the acquisition could be delayed until then. The U.S. Justice Department approved the merger in August.

Users Slowly Embrace Windows Vista

The number of people using Windows XP dropped 1.1% during the month of August, while Windows Vista saw an increase in usage, rising by 0.9%. Those are the latest figures from Web measurement firm Net Applications, which gauges the figures by monitoring about 40,000 Web sites and recording which operating systems are in use while the site is visited. Despite the drop, WinXP still made up 71.8% of visitors. Vista ended August with a record 18.8% share. In addition, Windows 7, which has not officially been released but is available to users via a Release Candidate, rose 0.3% and closed August with 1.2%. The official version of Windows 7 is set for release on Oct. 22.

CIOs Plan For Fourth-Quarter IT Staffs

A study performed by Robert Half Technology determined that 6% of CIOs have plans to hire new people to their IT staffs during the fourth quarter, another 6% plan to decrease their staffs, and the majority of 86% have no plans to change the makeup of their current IT staffs. The study was conducted via telephone with more than 1,400 CIOs with companies employing 100 workers or more. The study found that larger companies with more than 1,000 employees are more likely to add new staff, and that the New England and South Atlantic regions are the most apt to hire rather than downsize. About 62% of CIOs planning to hire during the fourth quarter say they will hire full-time employees. Of the CIOs expecting to cut their staffs, 47% attribute those cuts to company layoffs and 27% say that reduced IT budgets are the cause for the expected cuts.



New Parts For Old Systems

IGS Keeps Legacy Systems Going With Replacement Parts & Service

by Holly Dolezalek

DIGITAL EQUIPMENT CORPORATION is gone but not forgotten: The company may have been swallowed up in an acquisition, but its VAX and Alpha equipment still run in data centers all over the country. And when that equipment needs a part or a replacement, IGS is there with the supply.

Founded in 1990, IGS (www.decparts.com) is located in Plymouth, Mass. It's a privately owned company, and it's the largest stocking supplier of legacy products for Compaq, DEC, Alpha, and VAX systems. After becoming the only supplier of field service to DEC in 1995, IGS continued that relationship through DEC's acquisition by Compaq and then Compaq's subsequent merger with HP. Today, it's also a provider of field service to HP customers.

Reliable Replacement Parts

Customers call IGS when a system or computer part goes down, and IGS searches its database of more than 10,000 parts from a variety of manufacturers to find the needed replacement. The company's technicians then test the part and ship it to the site. The company doesn't handle PCs or consumer orders but focuses on midrange networking systems and their ancillary products. IGS deals with products that are 40 years old and products that were manufactured last year.

It might be surprising that so many companies would still be hanging on to their old equipment, but Bobby Ahearn, CEO of IGS, points out that those products date from an era when manufacturers' proprietary software didn't work with that of other manufacturers. Rather than undertake the expense of all-new software as well as hardware, he explains, some companies just keep going with the old for as long as they can find the parts and gear.

IGS' customers mostly come from Fortune 1000 and smaller companies, many of which have had a relationship with IGS for about 25 years. Additionally, steel, automotive, aerospace, and other companies (such as Boeing or Lockheed) that are prime contractors for the United States government account for much of IGS' revenues.

IGS sees plenty of new customers every year, as well, but those customers are often one-offs, looking for a single part or piece of equipment to get them through until they can migrate to a new platform.

Products & Migration Services

IGS stocks memory, storage, processors, cables, printers, and display and video components. It also stocks the components for those products, including chips, diodes, and resistors.

Its customer base is those data centers that aren't ready to migrate off of those older platforms or see no reason why they should. Many of those customers are in North America, but a solid 35% of IGS' business comes from customers in Europe,

the Middle East, and Africa. "We've developed contracts and customers worldwide, mostly in Europe," says Ahearn.

The company also offers its expertise in migrating from older systems to newer ones. IGS offers migration services from VAX to Alpha, VMS to NT, Alpha to Intel, Alpha/NT to Alpha/Linux, and other pathways.

IGS occupies two buildings (or about 35,000 square feet) at the airport in Plymouth. One of those buildings is the company's multimillion-dollar testing facility. IGS' workforce includes several



engineers who test the equipment and refurbish it for resale. "Any product we sell has been tested in its environment," Ahearn explains. "We've got a test bay to make sure it will function properly wherever it ends up."

New Directions

Ahearn is realistic about the way IGS' market is changing. "You can replace a three- or four-year-old \$25,000 Alpha system with a PC that costs \$2,000, and there has always been a stream of migration to Linux or HP systems from this kind of platform," he says. "It's an ongoing process, and we're at a point now where there aren't many facilities left with those older product sets."

For that reason, although the company will continue to stock DEC equipment for as long as there's a customer to want it, IGS is beginning to shift its focus from DEC gear to products from other companies, such as HP, Compaq, Brocade, McData, Sun, and Cisco. Specifically, IGS is getting a lot of business from HP printers and systems and from Compaq networking products. "The transition to a new product set is tough, but it seems like an intelligent move," Ahearn says. "That's where the business is. The people who are not migrating off of DEC-Alpha and DEC-VAX aren't going to be around much longer, and there are fewer deals in that product set, so if you're not migrating, you're in trouble."

For IGS, that constantly changing environment has meant constantly reinventing

IGS
(888) 332-7278
www.decparts.com

IGS maintains a database of more than 10,000 parts from a variety of vendors for maintaining legacy DEC, Compaq, Alpha, and VAX systems.

The company also offers migration services from VAX to Alpha, VMS to NT, Alpha to Intel, Alpha/NT to Alpha/Linux, and other pathways.

"We've got a test bay to make sure [any part] will function properly wherever it ends up," says Bobby Ahearn, CEO of IGS.

itself, learning new products, and investing in new equipment. When IGS stocks a manufacturer's equipment, its employees not only have to know how that product works and where to find it, they also have to have the testing equipment on hand for those new products. Ahearn says that IGS has spent "in the high six figures" on new test bays and other testing equipment for those new products.

That investment is essential, because it's part of what differentiates IGS from some of its competitors, Ahearn explains. One of his biggest challenges is explaining to customers the difference between his company and a competitor that has office space but no testing facility to guarantee the functionality of its products. "You have to have a test bay when you're dealing with reconditioned equipment, because otherwise you can't know whether you've got a working replacement or just a piece of junk," Ahearn says.

Navigating Tough Times

IGS has not been immune to the change in economic climate, Ahearn says. "It's been a very quiet and very tough three or four months. But it's not just us, it's nationwide."

Ahearn believes that plenty of IGS' competitors are not going to survive this recession. "When we started this in 1984, there were 20 to 30 companies doing this sort of thing, and then there were 300 to 400," he says. "Now there's more like 100 companies that do this kind of work, and I wouldn't be surprised if it was 50 a year from now."

That's why, rather than consolidating with other companies, Ahearn says IGS is content to hang on to its current base and branch out into the product sets that customers need. "I get calls every now and then asking if we'd be interested in being acquired, but we've been doing our own thing for 25 years and it would be hard to work for someone else," he says.

Though the economy isn't making things easy, IGS is rolling with the punches and making the necessary adjustments. Ahearn is confident that IGS will come out unscathed on the other side of the downturn. ■

A Sampling Of IGS' Offerings

Product	Description
DY-46107-A9	DEC 4000 Model 610 System with two 128Mb memory modules
DY-320DE-AA	AlphaServer GS320 Model 24 Base System for OpenVMS
MS340-BA	AlphaServer DS20 128MB DSIMM memory (4 x 32MB DSIMMS)
PCXAV-A3	DECpc 19-inch Monochrome 1,280 x 1,024 72Hz monitor kit

FEATURE PACKAGE

Companies To Watch

We profile four companies we think are worthy of your data center's attention.

Intelligent Cabling Solutions | 23

■ Given that a cable is a commodity component, how much trouble could come from going with the cheapest option? A lot, says Duncan Lee, chief executive officer of PDU Cables.

Data Storage Professionals | 24

■ If you're in the market for data storage and software solutions and are looking for an innovative company with a good reputation, years of industry experience, and a track record of great customer service, Adaptec deserves your attention.

Serious Storage Solutions | 24

■ Over the past three decades, Costa Mesa, Calif.-based CMS Products has provided hardware- and software-based storage solutions to address a wide range of enterprise issues.

High-Quality Servers, Low Price | 26

■ When budgets are tight, buyers have to distinguish between "the best" and "the best value"—a segment Area Data Systems aims to conquer.

Intelligent Cabling Solutions

PDU Cables Bundles Monitoring Features With High-Quality Assembly

by Bruce Gain
• • •

A DATA CENTER BUILD can easily require large sums of money, so it is tempting to cut costs wherever possible. Given that a cable is a commodity component, then, how much trouble could come from going with the cheapest option? A lot, says Duncan Lee, chief executive officer of PDU Cables.

Company Information

Company Name: PDU Cables
Location: Minnetonka, Minn.
URL: www.pducables.com
Date Company Founded: 1981
Interesting Fact: PDU Cables is one of the first firms to have a UL (Underwriters Laboratories) listing for its data center cables.



Cables' products, which are built in a controlled factory environment. The contractor then begins cutting the cable with a hacksaw onsite, and "little metal burrs get down beneath the floor and into the air plenum," Lee says. "The contaminants then blow up into racks and cabinets through the cool air supply and are then sucked up into servers, which can then damage or even destroy the expensive equipment."

Besides vendors building cables of "inferior grade," Lee says, cabling of normal quality material can also be defective. This is why PDU Cables tests each cable it builds. "We run a hi-pot voltage test on each conductor and the conduit itself to make sure there are no weak spots in the insulation, which could create a danger to the individual touching the product or short out an entire data center," Lee says. "An electrical contractor will not always go through that process."

Smart Power Cables

Power and cooling constraints have emerged as a principal concern of many data center managers, and the role monitoring plays to track how electricity is consumed is increasingly important.

"The main challenge in the IT and data center industry is the ability to know what exactly is going on in your own facility in order to make monetarily and environmentally wise choices," says Ken Koty, a sales engineer for PDU Cables who has 30 years of data center management experience.

Instead of just supplying cables and leaving it at that, PDU Cables seeks ways to add features to its products to help data center managers save on power consumption while boosting cooling capacity wherever possible. To that end, PDU Cables

has added power monitoring capabilities to its products through a recently formed partnership with Packet Power (www.packetpower.com). Through its alliance with Packet Power, PDU Cables incorporates proprietary wireless monitoring modules to its power cable assemblies and adapter cables, Lee says. "The smart power cables give users the ability to monitor and trend real-time branch circuit loads," Lee says.

With the Packet Power technology, circuit-level power consumption registered by the cables is transmitted to a wireless receiver in the data center, and the metering information is then accessible through a Web interface on a PC. "Once [data center managers] have an understanding of power consumption on a circuit level with the alerts and reporting that go with that service, they can then do things to lower their electrical costs, which can represent the biggest

expense of a data center," Lee explains.

Some PDUs offer monitoring capabilities, but they can be expensive and difficult to configure. "We are incorporating metering technology into the cable, which offers data center managers an alternative to getting their information in a way that is basically plug and play," Lee says. "You plug in our cables, use the Packet Power service through a Web interface, and have your information anywhere you want it wirelessly."

Color Labels

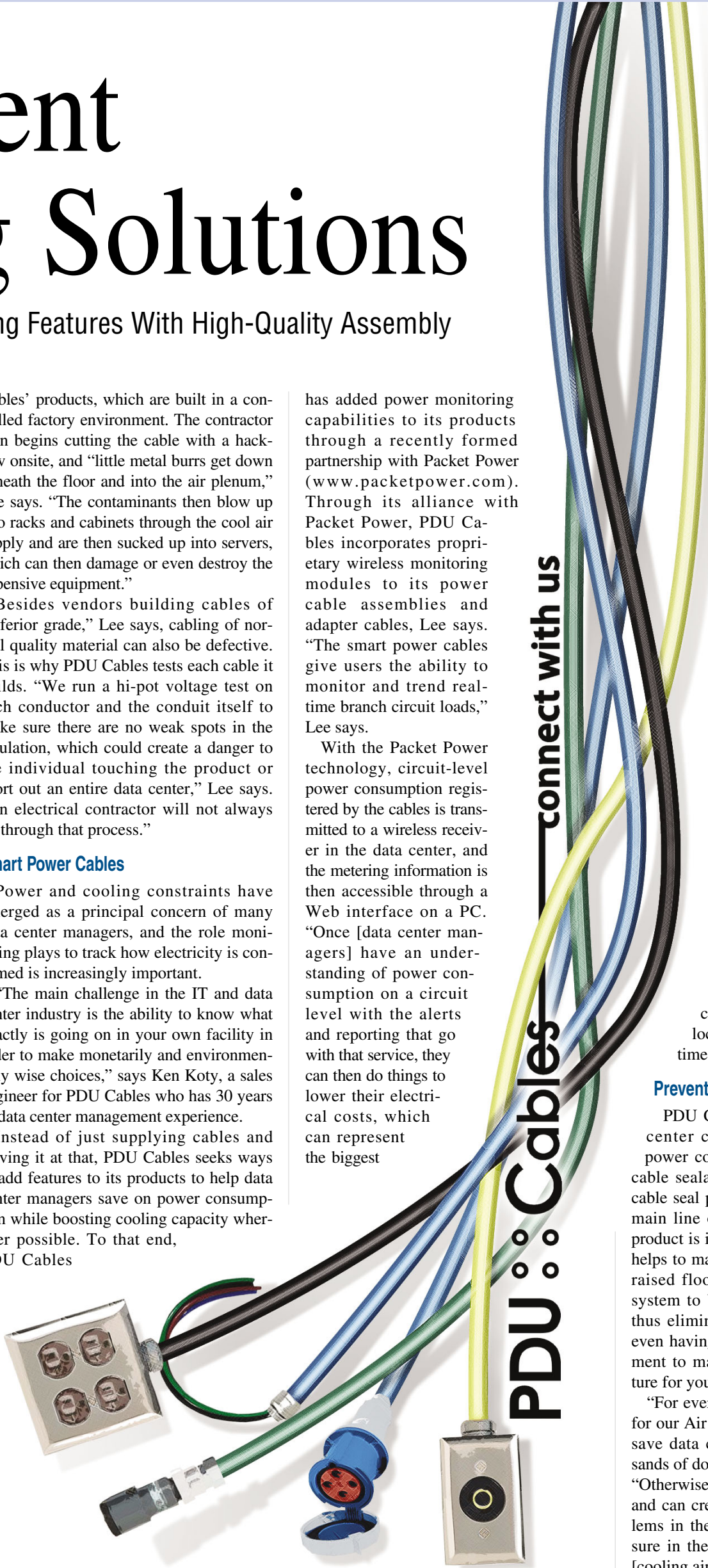
Lifting a raised-floor panel and distinguishing between different power cables can be confusing when they are all the same color, and in an emergency, handling the wrong cable can quickly lead to disaster. To avoid this, PDU Cables' offerings come in different colors for easier identification.

"Our company developed the first colored cables so that you can look at individual cables and say 'that one is going back to this PDU, or this is the primary or secondary cable,'" Lee says. "Additionally, we also do detailed labeling, which contractors do not usually do, so cables can be traced to the exact location without spending a lot of time figuring that out."

Preventing Cool Air Leaks

PDU Cables also seeks to boost data center cooling capacity and reduce power consumption with its Air Guard cable sealant product line. Although the cable seal products are not the company's main line of business, the firm says the product is important in that it significantly helps to maintain static pressure under the raised floor, which enables the cooling system to be utilized where it is needed thus eliminating much wasted energy or even having to purchase additional equipment to maintain the necessary temperature for your data center.

"For every cable, there is an application for our Air Guard cable seals in that it can save data center managers tens of thousands of dollars in energy costs," Lee says. "Otherwise, air rises with a chimney effect and can create lots of hot spots and problems in the data center because the pressure in the data center is not enough for [cooling air flows]." ■



Data Storage Professionals

Adaptec Combines Innovation & Experience To Keep Storage I/O In The Enterprise

by Chris A. MacKinnon

IF YOU'RE IN THE MARKET for data storage and software solutions and are looking for an innovative company with a good reputation, years of industry experience, and a track record of great customer service, one company in particular deserves your attention.

California-based Adaptec (800/442-7274; www.adaptec.com) delivers a variety of data storage I/O products, including ASICs, SATA/SAS and SCSI RAID controllers, host-bus adapters, and data conditioning solutions, all designed with cost-effectiveness and performance in mind.

Innovation By Design

Scott Cleland, director of marketing at Adaptec, says the company's reputation for innovation goes beyond country borders. In fact, he considers his company the global leader in I/O innovation. "Building on this expertise, Adaptec is implementing its Data Conditioning Platform strategy—an

intelligent I/O management approach—designed to create solutions that will enable data center managers to significantly lower costs, maximize system performance, and achieve meaningful Green IT objectives without requiring changes to existing storage architectures, application software, or operating systems," he says.

Adaptec's Data Conditioning Platform simplifies the adoption of new technologies and minimizes the risks and performance hits that often come with integrating new data center technologies. Cleland says Adaptec does this by ensuring that its platform is seamlessly compatible with all leading servers, storage devices, and operating systems and adhering to existing standards for commercial off-the-shelf hardware. He adds, "By integrating new and additional capabilities in the I/O data path, Adaptec provides data centers of all sizes with products that can dramatically reduce capital and operating expenditures while improving system performance."

Cleland cites two of his company's products in particular as examples of its innovative data conditioning: Zero-Maintenance Cache Protection is a maintenance-free, flash-based cached data protection solution, and Intelligent Power Management is a solution that reduces storage power and cooling costs by up to 70%.

SME Appeal

Cleland says managers of data centers at small to mid-sized enterprises will be particularly interested in Adaptec's newest product offering, the MaxIQ™ SSD Cache Performance Solution. According to Cleland, the MaxIQ SSD Cache Performance Solution lets SMEs build and manage intelligent HPHAs (high-performance hybrid arrays) that combine SSDs (solid-state drives) and HDDs (hard disk drives) to achieve I/O performance that is up to five times faster than the performance achieved with HDD-only arrays.

The Adaptec MaxIQ SSD Cache Performance Solution integrates customized

Intel®-powered MaxIQ SSD Cache Drives with Adaptec's SSD caching software to accelerate read-intensive applications in demanding data center environments without disrupting existing operations. According to Cleland, an HPHA can consist of any combination of SSDs and either SATA or SAS drives. The setup results in a cost-effective hybrid storage solution that delivers high I/Os per dollar at a low per-gigabyte price, ultimately giving the SME cost savings of up to 50%.

The MaxIQ SSD caching software also includes a patent-pending "learned-path" algorithm that identifies frequently read data blocks and optimizes subsequent reads by replicating that data directly into the SSD cache, resulting in lower latencies and higher system performance. By creating what Cleland calls a "read cache pool," a single-SSD high-performance hybrid array can deliver up to five times the I/Os of a comparable SAS-only deployment.

The result, he says, is a dramatic acceleration in application performance, which eliminates the bottleneck that can occur between server processors and hard drives and lets data center managers increase the number of users hosted per IT dollar, reduce the need for additional equipment acquisition, and cut data center energy costs.

According to Cleland, the MaxIQ SSD Cache Performance Solution is ideal for data centers running applications with high read demands, such as Web serving, file serving, and databases. MaxIQ can be deployed using off-the-shelf hardware, letting data centers convert industry-standard servers into cost-effective, high-performance, scalable application storage appliances that

Company Information



Company Name: Adaptec

Location: Milpitas, Calif.

URL: www.adaptec.com

Date Company Founded: 1981

Interesting Fact: Adaptec currently holds more than 400 technology patents.

Serious Storage Solutions

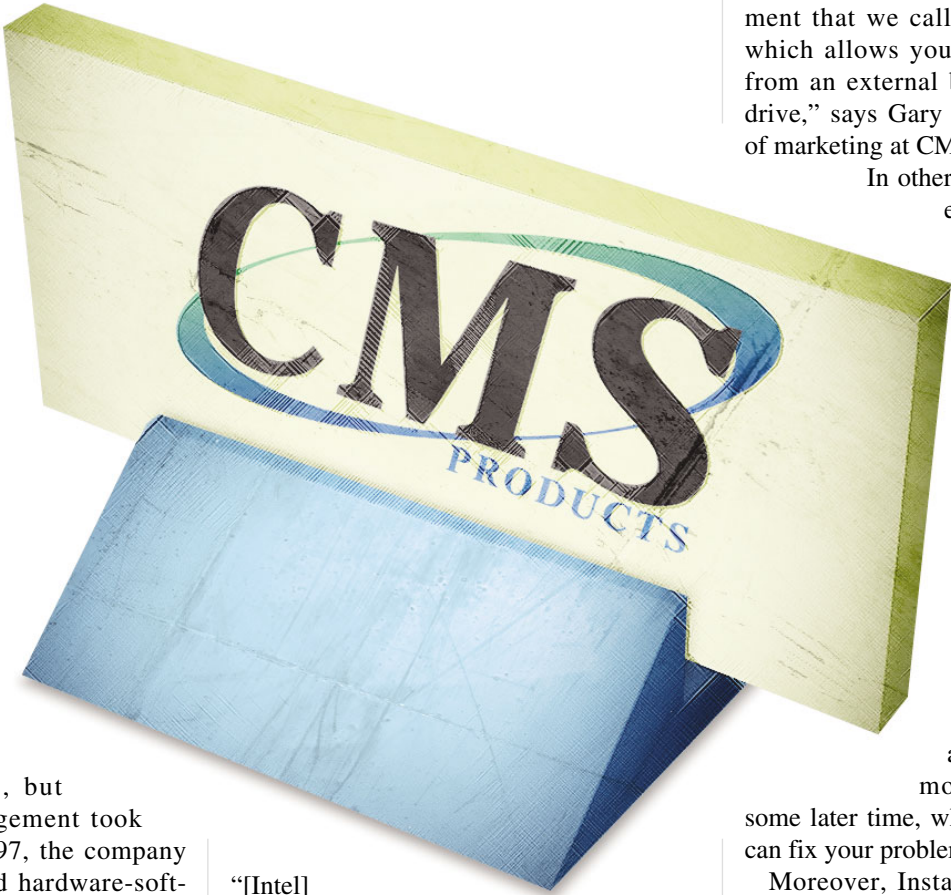
CMS Products Specializes In Reliable Hardware- & Software-Based Storage Offerings

by Robyn Weisman

OVER THE PAST three decades, Costa Mesa, Calif.-based CMS Products has provided hardware- and software-based storage solutions to address a wide range of enterprise issues. Its best-known products include its ABS-Secure encrypted disk solution, which provides users with on-the-fly 256-bit encryption capabilities via a small USB hard drive that uses the company's CE-Secure encryption software, and its BounceBack line of instant backup and recovery software.

For the first half of its existence, CMS Products (800/327-5773; [\[products.com\]\(http://products.com\)\) focused on hardware solutions, but when the current management took over the company in 1997, the company moved toward integrated hardware-software solutions. CMS Products' first foray into the software space was data-transfer software designed to enable users to migrate to larger hard drives, but soon it was doubling as a backup solution.

"Intel was one of our customers, and more of its employees were using our software as a backup device more than any other backup device they had at this time," says CMS Products President Ken Burke.](http://www.cms</p></div><div data-bbox=)



current versions of BounceBack "allow you not only to perform a bare-metal restore, but also allow you to have an element that we call Instant PC Recovery, which allows you to run your computer from an external backup system or hard drive," says Gary Streuter, vice president of marketing at CMS Products.

In other words, if your computer hard drive crashed or was infected by a virus, you could turn off your computer, plug in the BounceBack system, turn your computer back on, and run automatically from this external backup system as if nothing ever happened, says Streuter. "It's meant to get you up and running quickly. You bypass your internal hard drive for a few hours, days, months, or years, and at some later time, when it's convenient, you can fix your problem," he says.

Moreover, Instant PC Recovery offers users what CMS Products calls "One-Button Recovery," which the company says is so simple to use that even your least tech-savvy employee can figure it out. And its ability to let users fix such problems on their own can help lower overall IT costs, says Burke.

Encryption & Business Continuity

CMS Products increasingly has focused on encryption as one of its primary enterprise

"[Intel] asked us to formalize that data-transfer software into backup software that they could just plug in and go. We did, and that got us into the backup arena."

Instant PC Recovery

CMS Products' backup solutions evolved to provide easy-to-use and faster ways to restore data on computers. Its

can be easily integrated with no modification of existing storage architectures, application software, or operating systems. Cleland says MaxIQ offers simple, flexible expandability, allowing up to four additional SSDs to be added to, or removed from, the cache pool with no effect on data integrity or operations.

RAID For SMEs

Cleland says the Adaptec Series 5Z, Series 5, Series 2, and Series 1 Storage Controllers are also of particular interest to SMEs. The Series 5Z Storage controllers are 4- and 8-port (internal or external), low-profile PCI Express Unified Serial RAID® controllers with Zero-Maintenance Cache Protection. The 5Z controllers deliver intelligent power management, maximum scalability, advanced data protection, and a low total cost of ownership for high-density server applications.

Adaptec’s Series 5 Storage controllers are similar to the Z line, but they range from four to 28 ports. The Series 2 controllers are 4-port (internal or external) controllers with intelligent power management and hardware RAID for entry-level applications. The 4-port Series 1 cards are Unified Serial HBAs (host bus adapters) that provide economical non-RAID I/O with hard disk, tape, and solid-state drives.

Continued Innovation

Cleland says Adaptec will continue to invest engineering resources into expanding the value of its Data Conditioning Platform strategy in order to further secure

solutions. “IT has become more aware of encryption these last two years. It used to be a nicety; now it’s a necessity,” Streuter says. “It’s no longer an issue of ‘encrypt if you can.’ IT would rather not back up than not encrypt because [not encrypting] creates a point of potential liability. The penalties on [such regulations as] Sarbanes-Oxley Act and HIPAA are onerous.”

According to Streuter, CMS Products offers its CE-Secure software both as a standalone product and as part of its ABS-Secure encrypted external hard drive solution. “ABS-Secure is built around a software encryption product, and it basically is full-disk encryption [that] allows you to open and close the encryption so that the rightful owner or user can address it,” Streuter says.

CMS Products differentiates its encryption solutions by making them extremely user-friendly, says Streuter. At the same time, the company adds a number of features that soothe the nerves of IT professionals when these solutions are deployed, including multiple administration passwords.

“For instance, let’s say you distribute 1,000 [ABS-Secure solutions] to 1,000 employees, and these employees all put in their passwords. What happens if an employee leaves the company and won’t give you the password?” Streuter posits. “With these admin keys, the rightful owner of the data, which is the [organization] that distributed them, has the ability to go back and retrieve that data through the use of that admin password.”

In addition, this capability aids IT when a user calls the help desk and either doesn’t remember his or her password or believes

the company’s place in the ever-changing data center industry.

Adaptec’s thoughts on the IT and data center industry as a whole are positive from an innovative technology standpoint. “As massively scalable cloud computing data centers continue to grow and become the standard in providing IT services to businesses around the world, they will face constant pressure to operate more efficiently,” Cleland says. “Adaptec believes that the IT/data center industry requires innovative solutions that continually increase sys-

Adaptec’s
MaxIQ solution
offers flexible
expandability
with no effect on
data integrity or
operations.

tem performance while lowering total cost of ownership and achieving meaningful Green IT objectives.”



Chinese Google President Stepping Down

Google Greater China President and Engineering Vice President Kai-Fu Lee announced he will be leaving the company. He is stepping down to pursue a new project in Beijing. Lee was hired by Google in 2004 to popularize the U.S. search engine in China. He is credited with launching Google.cn, a Chinese-language Web site, and hiring knowledgeable scientists and engineers. Google’s presence in China still lags behind local search engine Baidu. Boon-Lock Yeo, director of Google’s Shanghai engineering office, will oversee engineering responsibilities, and John Liu, leader of the Google sales team, will handle business and operations.

Texas Memory Systems Makes Acquisition

Solid-state drive company Texas Memory Systems has purchased patents and source code from Incipient, a storage virtualization startup that raised \$95 million and created a split-path network-based storage virtualization platform. The acquisition will allow Texas Memory Systems to further expand its hold in the solid-state storage market. Although specific plans for the newly acquired source code and patents have not yet been announced, the acquisition equips Texas Memory Systems with virtualization and storage management tools to enhance its SSD systems and gives it a competitive advantage in the market. Incipient will remain a separate entity and continue to serve its current customers.



Consumer Technology Grows

About 45% of United States households own a notebook, the average household has two PCs, about 80% of households have a mobile phone, and only 8% of consumers own a smartphone. Those are among the findings of Forrester Research’s latest study of about 48,000 consumers in the United States and Canada. The study, called “The State of Consumers and Technology: Benchmark 2009,” found that HDTVs and home networks experienced the fastest growth among consumer technologies in 2008. By 2014, almost 39 million households will go HD with their next television and more than 30 million households will add network connectivity during the same period. The study also reported on Americans’ media consumption habits, showing that, on average, consumers 39 and younger spend about two hours more per week with new media than with traditional media.

Linux Defenders To Buy Former Microsoft Patents

The Open Invention Network announced it plans to purchase 22 patents previously held by Microsoft in an attempt to protect Linux distributors from patent litigation. The group, which includes companies such as Red Hat and IBM, will purchase the patents from Allied Security Trust, which purchased the patents in a private auction held by Microsoft. The patents in question pertain to Linux-related technologies, and by purchasing them, the group hopes to avoid having to pay Microsoft for patent deals whether in or out of court. Microsoft alleges that Linux violates more than 235 of its patents, although open-source supporters refute this claim.

his or her data is inaccessible. “The [organization] has the tools to [overcome] that, and the resulting support goals that the IT group defines in terms of keeping that access to the data differentiates our product,” Streuter says. “Our products provide business continuity because even if your system can’t boot or has been infected by a virus, you can still immediately get it and keep it working.”

Bouncing Back In All Ways

In October, CMS Products will release several new products. One is a small-business server version of ABS-Secure that

Company Information



Company Name: CMS Products
Location: Costa Mesa, Calif.
URL: www.cmsproducts.com
Date Company Founded: 1983; current management took over in 1997
Interesting Fact: Currently, the initials CMS don’t stand for anything, explains CMS Products President Ken Burke. The best guess he can make is that the original owners of the company bought a bankrupt company called “Complete Manufacturing Systems” so that it could go public. The company later added “Products” to its name to differentiate itself from other companies with CMS in the name.



Microsoft To Offer Free Trial Of Windows 7 Enterprise

Microsoft is offering a 90-day free trial of the release-to-manufacturing version of Windows 7 Enterprise in a bid to give organizations without MSDN, TechNet, or volume licensing agreements a sneak peek at the final code. Under the program, Windows 7 Release Candidate testers can continue their evaluations. Microsoft, which only offers Windows 7 Enterprise through volume licensing agreements, is targeting the trial offer at IT professionals in charge of desktop administration for enterprises. There will be a limited number of trial licenses available between now and March 31, 2010. Following the evaluation period, PCs with the Windows 7 Enterprise trial installed will enter a reduced functionality mode, where they will shut down hourly to encourage users to upgrade. Windows 7 is slated for release Oct. 22.

Raytheon Acquires BBN Technologies

Defense contractor Raytheon announced an agreement to buy BBN Technologies of Cambridge, Mass., for undisclosed terms. BBN, known for its Boomerang sniper detection system for the military and for its efforts with the Internet precursor ARPANET, is a private firm involved in research and development. The 700-employee company also deals in network security, speech technology, sensors, and IT. BBN will be incorporated into Raytheon Network Centric Systems after the deal closes sometime in the fourth quarter.



Verizon Tops In Wireless Call Quality

J.D. Powers and Associates' latest Wireless Call Quality Performance Study shows Verizon as the big winner in four out of the six regions surveyed, namely the Southwest, Southeast, Northeast, and Mid-Atlantic parts of the United States. Verizon also tied Alltel and T-Mobile for the best service in the West region, while U.S. Cellular continued its reign in the North Central area. The study, which covers January to June of this year, shows that carriers have improved service in a number of categories overall, demonstrating declines in dropped calls, failed initial connections, and audio problems.

Safety Association Calls For Ban On Texting While Driving

In a reversal of recent policy, the Governors Highway Safety Association, a group of state highway safety representatives, has called for a ban on texting while driving. This change in policy comes in response to research showing that motorists who send text messages while driving pose a greater risk of getting into an accident. Recent studies have shown that drivers sending text messages divert their eyes an average of five seconds per message. Depending on the research cited, those who text while driving are between eight and 23 times more likely to be involved in a crash.

High-Quality Servers, Low Price

Area Data Systems Offers Affordable Server Solutions For SMEs On A Budget



by William Van Winkle

THERE'S NO QUESTION that well-established companies such as IBM and Sun Microsystems deserve their places in the top tier of OEM solution providers. But when budgets are tight, buyers have to distinguish between "the best" and "the best value"—a segment Area Data Systems aims to conquer.

Founded in 1987 and based out of Placentia, Calif., Area Data Systems (www.areasys.com) specialized in server manufacturing long before the idea of "whitebox servers" went mainstream in the small to medium-sized enterprise space. More recently, Area Data Systems has further specialized in storage servers for the SME space as well as in vertical markets such as government and education. Although many companies strive for flashy products able to garner fat margins, Area Data Systems takes the opposite tack: According to Area Data Systems President William Huang, the company's core virtues are "fast, flexible, reliable, and cost-efficient." Many manufacturers use these terms, says Huang, but not many have been making a business out of them for 22 years.

Real Value

It's easy to find affordable server products so cheaply made that they bow in the middle when rack-mounted; however, it's a little more challenging to find affordable servers that are on par with those from the big names in the market. According to Frances Ip, senior production manager at Area Data Systems, his company answers this challenge by getting its bare-bones servers from the same place many of the big-name server manufacturers procure theirs.

Ip says that the similarity in appearance and quality to products from bigger companies is a boon to Area Data Systems. "A lot of customers say, 'Wow, I can't believe the dollar difference. . . .' That's why they jump to us," he says. "And [big-name manufacturers] might have a 2U, 12-drive server, but they don't have our 4U, 32-drive options."

Area Data Systems also ensures that the other components of its servers are of similar caliber. The company frequently relies on parts from some of the industry's biggest vendors. Such components often cost more, but the payoff comes with added stability, broader compatibility, and the ability to work with these vendors in order to implement such things as firmware tweaks in order to meet a client's specific needs. Area Data Systems will even send several of its in-development systems to these vendors for testing and validation.

Another facet of value is emphasizing the right technology at the right time. Until recently, Fibre Channel was the storage server interconnection technology of choice. Many Tier 1 solutions continue to emphasize Fibre based on its existing deployment footprint and lucrative price points, but Area Data Systems has largely moved away from Fibre in favor of SAS (Serial-Attached SCSI). Given the formats applicable to the SME market, Huang believes that SAS can offer similar performance at about 20% of the cost of Fibre. Part of this disparity has to do with the fact that Fibre requires expensive switching architecture that many SME SAS deployments may not.

"You might buy a server box with a 2-port external SAS controller," says Ip. "Something with failover capability [that] is daisy-chainable. You can just keep daisy-chaining onto it until you finally say, 'Oh, forget it. I'll just buy another SAS card.' You don't really need a switch. We

have a customer who daisy-chained four 4U JBODs, and he's had no problem."

Sensible Solutions

Area Data Systems tends to focus more on optimizing for each customer than on inventing solutions from scratch. Huang and his staff don't try to be on the bleeding edge. Instead, they start by listening to what customers want and to a description of their existing environment. Solutions are made to fit within that context so as to better utilize that enterprise's existing investments.

For example, smaller customers often aren't yet ready to move into a full-blown storage-area network, but they've outgrown the limitations of conventional direct-attached storage, which ties up the host's system resources with a flood of data requests. Most of these customers

will then turn to network-attached storage, which takes the load away from the server but introduces a new set of security concerns. Enough clients were requesting a solution to this scenario that Area Data Systems devised its "host-based RAID solutions." This involves taking a Tier 1 RAID controller and placing it in the external storage box, which links via SAS to a host controller in the server, solving the server resource problem while still preserving security. The storage enclosures are further improved with SCSI Enclosure Services support, which allows for the monitoring of temperature, power, and other storage enclosure attributes.

Quality Assurance

As anyone in the server business can testify, though, solid parts and clever configurations don't guarantee dependability. This is why Area Data Systems goes through a multiphase process for every solution. Sales and configuration are only the first step; the solution also goes through a failure scenario in order to test redundancy. If it survives the rebuild/restoration process, Area Data Systems

Company Information

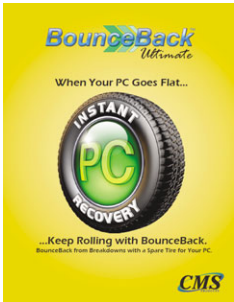


Company Name: Area Data Systems
Location: Placentia, Calif.
URL: www.areasys.com
Date Company Founded: 1987

Interesting Fact: Area Data Systems has no shortage of military, academic, and enterprise sales, but perhaps its most exotic storage server deployment was to the largest newspaper and magazine publisher in Barbados, the 167-square-mile nation in the eastern Caribbean.

will use utilities to stress-test the controller, enclosure, server, and drives. Further quality assurances, such as adherence to FCC and UL specs, also come into play. When all this is done, it's time for one last bootup and operational run-through to confirm that everything works as planned, after which the solution moves out to the shipping dock.

The company's attention to detail and systematic testing are just part of all it does to ensure value and reliability. Area Data Systems is exactly the type of value-oriented vendor that deserves more IT attention in tight times. **P**



Simple & Quick Backup & Recovery

CMS Products BounceBack Ultimate

by Seth Colaner

• • •

EVERY DATA CENTER employee knows the necessity of backup and recovery solutions. CMS Products’ BounceBack Ultimate is designed to be a “digital spare tire” for PCs, allowing users to back up and restore the entire contents of a PC, including applications, data, personal settings, operating system, partitioning, and formatting.

Features include Instant PC Recovery, which lets users start up a PC from an external USB hard drive in case the operating system or hardware malfunctions, and instant One-Button Recovery, which is a simple and direct way of restoring a PC hard drive without the need for reinstalling anything. The QuickRestore function also lets users quickly restore specific files and folders.

Other features include CDP (Continuous Data Protection), a function of BounceBack Ultimate that continuously keeps new or modified files up-to-date; the ability to let Bounce-Back Ultimate run its processes in the background so users can continue to work while the program takes care of business; and easy-to-configure AES 256-bit encryption to secure your data from prying eyes.

BounceBack Ultimate also lets users back up to multiple media, such as an external hard drive or network drive, simultaneously so users can have multiple concurrent backups. With synchronization capabilities enabled, users can save a backup of their projects on a backup drive and use the drive on other computers. When the drive is again connected to the original computer, BounceBack Ultimate automatically syncs the changes, ensuring you’re always working with the most up-to-date files. Users can also schedule backups and create backup sets.



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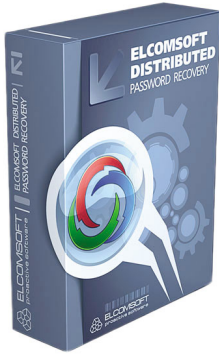
Courtesy Of ElcomSoft Distributed Password Recovery

by Andrew Leibman

• • •

WE’VE ALL LOST A PASSWORD at one time or another. But for many organizations, passwords and the employees who use them are often times the only things standing between proprietary data and the competition, financial details and would-be thieves, and encrypted files and those who need to use them to conduct business. When these passwords go lost or forgotten or the employees who put them in place have left the company, been fired, or are otherwise unable to relate the password, the resulting data and financial losses can be devastating. But with ElcomSoft’s Distributed Password Recovery, lost passwords are found again.

Distributed Password Recovery is like a master key designed for those who require robust password recovery services to function, such as forensic and government agencies, data recovery and password recovery services organizations, and corporate users. ElcomSoft’s offering is capable of breaking complex passwords, recovering strong encryption keys, and unlocking documents. It is also fast, offering Nvidia GPU-based acceleration that is capable of dramatically reducing password recovery time. Organizations of all sizes can take advantage of Distributed Password Recovery’s features, and users



can install the software agent on up to 10,000 workstations without negatively impacting performance. Even better, the distributed nature of the offering enables it to utilize the idle CPU cycles of such a large cluster to improve the brute-force attack performance.

Distributed Password Recovery is capable of reclaiming passwords for several applications and file formats, including LM/NTLM hashes used in Windows NT/2000/XP/2003 logon passwords, all types of Microsoft Office documents, Adobe Acrobat PDF files, Lotus Notes ID files, MD5 hashes, and user passwords for Unix and Oracle users. Distributed Password Recovery can also be used locally over a LAN or remotely over the Internet. Additional file support is available via plugins.



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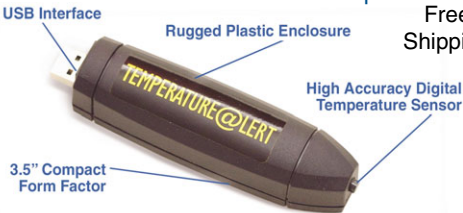
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FCC To Evaluate Competition, Innovation In The Wireless Industry

The Federal Communications Commission recently announced a Notice of Inquiry that will analyze the mobile wireless market. The inquiry will focus on competition, innovation, and investment in the wireless market.

“We seek to understand better the factors that encourage innovation and investment in wireless and to identify concrete steps the Commission can take to support and encourage further innovation and investment in this area,” says Matthew Nodine, the FCC’s Wireless Telecommunications Bureau acting chief of staff. “A goal of this inquiry is to initiate a dialogue with stakeholders on how to remove any unnecessary impediments caused by the commission’s policies and rules,” he says.

Part of the motivation behind the inquiry is the FCC’s interest in advancing the wireless industry in the United States. “The communications sector can make a substantial contribution toward an enduring economic recovery, and wireless is an increasingly big part of the communications sector. Indeed, wireless can be a major engine for job creation and economic growth, for advances in health care and energy, and for securing the public’s safety,” Nodine says. “We have the opportunity to make the U.S. a leader in using wireless to accomplish these critical goals, by focusing on the power of innovation.”

Effects Of An Inquiry

The analysis of the mobile wireless market is intended to gather information about sources that will offer the best data regarding mobile competition, new market segments such as device and infrastructure, and how certain relationships between market segments affect overall competition. In addition, the inquiry will look into the effects of competition and innovation on wireless consumers.

Nodine says the inquiry is a first step into an “Innovation and Investment Agenda,” which will create a better-suited environment for wireless innovation. “We will closely evaluate the record that is generated by the [Notice of Inquiry] and consider how best to move forward in particular concrete ways,” he says.

by Kris Glaser



CASE STUDY

A One-Click Email Solution

RPost Makes Electronic Legal Signoffs Possible

by Julie Sartain

BUY, BORROW, RENT, TRADE, SELL, LEASE. All have one element in common: contracts. Legal contracts can require physical signatures, witnesses and/or notaries, copies in triplicate, and a number of other complexities that make contract execution an expensive, cumbersome, and time-critical process.

One company, RPost (www.rpost.com), headquartered in Los Angeles, has a service that addresses and solves these issues. It’s called RPost eSignOff service, a one-click electronic contract execution program that’s handled entirely through email.

The Challenges

Robert Holmquist, marketing manager at Suddenlink Business Services, says his company needed to obtain electronic signatures for commercial customer service agreements and other documents that require signatures, particularly from signers who are not at the Suddenlink office location. “We had to eliminate the need for obtaining signatures in person or by mail,” he says.

Traditional methods include mailing, paper, and courier costs; administrative overhead for scanning, filing, copying, and faxing; subsequent scanning of signed contracts; mailing of countersignatures; and paper storage/vault rental space—a process that can take weeks and could potentially derail the deal.

For Suddenlink, electronic contracts were the solution, but that process also has its limitations: no proof of delivery, content, signoff, or time; emails and attachments that can be altered; and scanned signatures that can be copied and pasted anywhere.

“We wanted to speed up and otherwise streamline our documents signature process,” Holmquist says. “As Suddenlink continues to expand its business services offerings, we wanted to differentiate ourselves from the competition. And making things easy for our customers gives us an advantage.”

How It Works

Zafar Khan, CEO and co-founder of RPost, says that with the eSignOff service, the recipient’s indication of acceptance of a particular contract becomes embedded in the contract document, which is then transmitted by email with a formal record of the contract signatures. This is provided to both parties within the form or in a verifiable and time-sealed PDF record, with the underlying forensics of the contract execution transaction presented to the sender. “This provides them with an evidential record of contract execution equal to ‘wet-ink’ signatures on paper contracts, eliminating the

print/sign/scan/fax/mail sign-off process,” Khan says.

The eSignOff service is built on RPost’s Registered E-mail technology platform, Khan says, which provides legally verifiable and court-admissible proof that an email was delivered, with an official time stamp and proof of the content sent and received (including attachments). The proof record is in the form of a Registered Receipt E-mail, which is automatically generated and contains a digital snapshot of the entire email

available in a “push” application by its IT department and then downloaded to the sales and support computers of the people who needed to use it.

“We conducted half-hour training sessions via Webinars and face-to-face meetings to train the users on RPost,” Holmquist says. “Our experience showed that it’s easily learned with a couple of examples. The primary challenge was communicating the general concept of e-signatures vs. physical signatures. One limitation of any e-signature

How RPost eSignOff Works

- Zafar Khan, CEO and co-founder of RPost, says the eSignOff service works in three simple steps:
1. The sender composes a contract signature request in the email body, includes sign-off instructions, and attaches a contract to email.
 2. The sender clicks the Send Registered button instead of the Send button.
 3. When a Send Menu appears, the sender checks the eSignOff option and then sends the email. The eSignOff service records the respondent’s positive confirmation of the items specified in the attached contract or included in the email body. The sender receives a Registered Receipt proof record by email of the contract delivery, which serves as the formal record of the content, time, sign-off, and added commentary, in a form that can be easily validated in the future. The form is admissible into court evidence, if required, and can reconstruct the authenticated electronic originals as needed.

transaction, including the underlying Internet protocol-level forensic report.

“The system does not rely on any recipient actions or click-throughs to return the receipt to you,” Khan says. “United States government customers have been using RPost’s Registered E-mail services since 2003, and our service complies with Federal E-Sign



Law and State Uniform Electronic Transaction Acts.”

Fit The Need

Holmquist says Suddenlink considered a couple of applications similar to RPost eSignOff, “but RPost seemed to fit our needs best. Also, this service has been proven effective by other companies in businesses similar to ours. It’s simple [and] fairly easy to learn and use, and the price structure lends itself to our pattern of use. The e-signature concept has been upheld in court cases in jurisdictions that Suddenlink operates, and RPost did a good job collecting and presenting this legal experience. Plus, the contract process is immediate, so it saves time for everyone.”

According to Holmquist, Suddenlink completed a limited 60-day test to confirm the applicability of RPost use in the company. The RPost application was then made

service is that it cannot be used for documents that require physical notarization.”

Holmquist says the service has worked as anticipated and is still in general use today, with Suddenlink continuing to expand it to more locations.

Holmquist adds that the RPost service addressed a significant part of Suddenlink’s need to streamline its sales document signature processes. “Again, we’re doing everything we can to help customers and make working with Suddenlink the best possible experience; that is, speeding up service delivery and, again, being easy to do business with. We have a state-of-the-art network that we operate ourselves to provide our services. Making the process easy is one way we can help customers decide to use and continue using our high-quality data, voice, and video services.”

For example, notes Holmquist, using RPost eSignOff, one customer in a remote town in Texas was able to sign his agreement for service immediately, then had his installation date scheduled and the installation completed much faster than it would have been if another signature process was used. It was a win-win situation for the customer and for Suddenlink.

Future Plans

Holmquist says Suddenlink intends to continue using the eSignOff service as part of its plan to provide an exceptional experience for its customers. It’s another useful tool that helps the company expand its business services, which are a major growth area of this industry.

“With our own national network backbone, we also provide services to other carriers, as well as data, voice, and video services to our customers. As we introduce more and more new services to an increasing variety of customers, we can help extend the reach of our business and the speed with which we deliver our services. The tag line on our Suddenlink logo says: ‘Easy as counting to one.’ Using applications such as RPost’s eSignOff service helps us deliver on that promise.”

RPost eSignOff Service

An electronic sign-off service in which indication of acceptance of a contract becomes embedded in the contract document, which is then transmitted by email with a formal record of the contract signatures. eSignOff is built on the RPost Registered E-mail service, which provides senders with legally valid evidence of what email content and attachments were sent and received, by whom, and when.

“It’s simple [and] fairly easy to learn and use, and the price structure lends itself to our pattern of use,” says Robert Holmquist, marketing manager at Suddenlink Business Services.

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CASE STUDY

Optimize Employee Remote Access

2X Virtual Computing Solution Helps Teleflora With Efficient Operations

TELEFLORA, the nation’s largest floral delivery network service, relies on the 2X ApplicationServer with Load Balancer and the 2X ThinClientServer Enterprise Edition to optimize employee remote access to critical desktop applications. The 2X solution guarantees the efficient operation of Teleflora’s call centers, with flawless desktop performance delivered to more than 1,100 users in multiple locations.

Jeff Jones, the systems architect at Teleflora, is responsible for ensuring the company’s desktops can meet the day-to-day needs of the organization. And Jones needs to ensure Teleflora’s IT goals are met at the lowest possible price. Teleflora’s call centers employ 650 full-time employees and 500 additional peak-time call center hires. Previously, the company was forced to purchase individual application licenses for each of its call center desktops, even though they may only be used a few weeks per year.

To solve this problem, Jones chose a 2X-based thin client solution with his 10 32-bit HP BL460c Blade Servers, along with the VMware ESX 3.5 (VI3) virtualization platform. By switching to a 2X thin client solution with remote application publishing, which runs users’ applications from a central server rather than from the individual desktops themselves, Jeff says he was “able to save \$120 per machine, simply from one-time licensing cost savings,” a total cost reduction of more than \$120,000.

Jones notes that a thin client device solution might also prove effective, but he explains that to implement such a solution, he would have to spend \$300 each for more than 1,000 thin client devices to achieve long-term cost reductions, making a device-based solution impractical in achieving immediate savings. Teleflora’s 2X-based solution was thus a “diamond in the rough that fundamentally changed the way we do things,” Jones says, as it significantly lowered IT costs and reduced the need to purchase additional thin client devices.

Savings To Bottom Line

Despite the significant benefit of IT cost savings to Teleflora’s bottom line, Jones credits 2X with providing a much more valuable benefit in ensuring flawless desktop performance. During typical business periods, the company’s operations are heavily demanding, as the company maintains relationships with more than 25,000 member florists, for whom the company provides an integrated back-end solution, including Web site hosting, email, and order processing. By providing a critical revenue stream for its member florists, Teleflora’s reputation would be in jeopardy if its order processing system experienced failures. During critical periods, these failures were more likely to occur, with call centers bursting at the seams with 1,000 employees and a resulting increase in the probability of desktop system malfunctions.

To reduce the probability of desktop crashes, Teleflora’s technicians would typically spend two weeks prepping the desktops at each call center before the arrival of seasonal employees. Since Teleflora’s 2X thin client solution was installed, the call centers’ desktops have been operated remotely, removing the need for individual desktop checks. With the 2X thin client solution, Jones uses his technicians’ time in a more productive manner, checking maintenance on call center phone systems and cubicle arrangements. “Technicians’ labor requirements have fallen from 24 weeks to 24 hours, allowing them to perform their normal jobs without distractions,” Jones says.

A byproduct of Teleflora’s increased thin client-based efficiency is the new-found confidence Jones’ team and call center managers have gained in trusting their 2X solution to efficiently handle any potential desktop error. By using the 2X thin client solution, Jones says he “can fix virtually any desktop problem by simply rebooting the ThinClient OS from the central server, accomplishing in minutes what used to take hours to repair.” As a result, he says, he has “been able to reduce desktop crashes by 99% from previous levels, since my team can reboot any failed desktop from a central source.”

Scott Sims, 2X business development manager for the Americas, says, “With centrally managed and published applications, using a thin client-based solution,

companies like Teleflora can optimize access to their network.”

Jones and his team are confident of 2X Software’s ability to continue to provide quality server-based software solutions in the future. Teleflora’s future should involve an expansion of its remote application publishing capabilities, along with a move to a thin client device-based solution, to take advantage of potential long-term savings opportunities. Even with a transition to thin client devices, Jones still plans to make 2X a core component of his solution. “I’m very satisfied with the application publishing and load balancing offered by 2X, and we’ll need these capabilities in a larger scale with a device-based solution, especially considering the cost-effectiveness and scalability characteristic of the 2X product line.”

About 2X Software



2X Software Ltd. develops software for the booming server-based

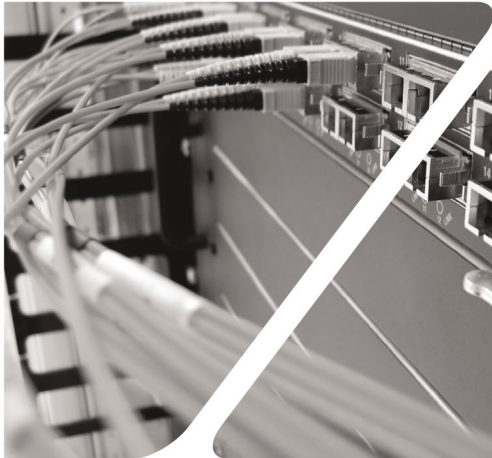
computing market. Thin client computing controls skyrocketing PC management costs, centralizes application and desktop management, improves security and performance, and lets users work remotely. The company’s product line includes: 2X ThinClientServer, 2X LoadBalancer for Terminal Services/Citrix, 2X ApplicationServer for Windows Terminal Services, and 2X VirtualDesktopServer. 2X is a privately held company, and its management team is backed by years of experience in developing and selling network infrastructure software.

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How To

Reduce Your Backup Times

Which Option Is The Best Time-Saver?

by Curt Harler

• • •

IF DATA BACKUP were an event at the Olympics, the gold medal would go to the SME that reduced its time and cost of backup data without sacrificing data integrity. Bob Maness, vice president of worldwide marketing and channel sales at Pillar Data Systems (www.pillardata.com), recommends looking at capacity, CPU, and cache, as those are the key areas to examine for efficiency. Just as a laptop computer slows down when it is multitasking, so do backup

processes when they are competing with other applications for processor resources. “The way to speed up your backup is to devote more resources to it,” he says. “You give backups a higher level of service just when you need it; when backup is done, shift the priority to other applications.” Backups usually happen at night or in off-hours. By giving backup priority for processing, the task can be sped up and the network can be returned to other tasks more quickly and with less interference.

Just as an Olympic runner strives to shave seconds, so, too, does an SME have to look at all the possible ways to cut time and cycles out of the backup process. But what’s the best way to do it? Sometimes, the race will come down to which backup method is best-suited to your SME and your needs. Each method has its specific proponents, and, although one size does not fit all, certain solutions will be better-suited to certain data centers. Read on to see which is best for yours.

Backup Methods

Traditionally, backups have been managed using tape media. Maness, who spent a good part of his career in IBM’s tape business, still feels tape is quite cost-effective. “But it is not easy to recover data,” he says. New and diverse formats and the difficulty of managing tape integrity have led him to believe disk backup is more efficient and simpler to manage. If your company has a sizable investment in tape backup with no budget for change, it is still possible to find ways to improve the process. “Look to your software,” Richard Bongard, president and chief technology officer for Insite Computer Group (www.insiteco.com) says, noting that many IT people decided long ago to set up their tape backup solution to perform full

backups each day. “Although this method of backup allows for simple management and restores if necessary, companies that have large amounts of data find the backup window might be too small to complete the job in a timely fashion,” he says. Doing incremental or differential type backups can greatly reduce the size of window required. “I would still recommend doing a regular full backup,” he explains. “However, this can be done with less frequency. With the sophistication of today’s software, it can still be simple to perform a restore of either a file or an entire system. A good understanding of how your backup software works is very important in today’s backup environments.” In the last few years, with the costs of hard drives and storage space falling greatly, backup to disk has become popular. “In many cases, backup to disk would be the preferred method of doing backups since both the backup time and restore times are greatly reduced,” Bongard says. In addition, the dataset sizes are increasing and backup windows are decreasing. Disk-based backups offer a flexible, quick solution for most users. There is one major exception, he notes: The removal of such backups offsite. For many SMEs, however, backing up to disk can be much quicker than the traditional tape method, says Bongard. He also notes that, in addition to backups, data restore technologies have come a long way in recent years, such as the ability to back up complete Exchange, SQL, or SharePoint databases, with the ability to restore individual mail, database, or files within SharePoint. “This technology can greatly improve the restore times and restore flexibility,” he says, adding that it is only available when doing backup to

TOP TIPS

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| • Don’t be afraid to pair more than one option. Sometimes, you can save more time if you combine the methods that work for both your backing-up and time-saving needs. | data to a thumb drive and send the drive home with a trusted employee; two or three cheap USB drives are enough to assure continuity, depending on the size of your SME and the data that needs to be backed up. | consider the option best for your enterprise. |
| • Rotating USB backups is a cheap and effective backup method: Simply back up the | • Backing up to disk is quicker than tape, but be sure to | • Incremental or differential backups can greatly reduce the time required to do the backup and can cut the amount of storage required. |
| | | • Expand backup systems vertically, not horizontally. |

How To

Implement Liquid Cooling

What Should Your First Steps Be?

by John Brandon

• • •

INTRODUCING A NEW TECHNOLOGY into a data center can be an exciting prospect, especially if it’s one that solves serious business problems. Liquid cooling is one of those. However, although it provides extraordinary advantages—such as lowering server temperatures dramatically—it can

also raise new issues, such as pipe maintenance and new cleaning requirements. But if the work involved doesn’t scare you away, the real question is where to start. And once you go through the initial steps to plan for liquid cooling, how do you make sure you complete the upgrade without too many surprises? We’ll tell you how.

Initial Steps

Don Beaty, president of DLB Associates Consulting Engineers, says the first steps to take are to ask the right questions about the kind of cooling you want to use and the problems you want to solve; the size and capacity of the cooling system; the routes for the cooling system in the data center; and whether you want to install a vendor-neutral system, which is one that works with any product, or a proprietary system, a turnkey system from one vendor. Routing through the data center is especially critical, because it often determines the level of cooling you will see with servers and other equipment and how easy it will be to perform upgrades for the cooling system in the future. Often, the most work for liquid cooling is planning the route, especially when the data center layout is already defined (as opposed to new construction). Beaty says other early steps are to decide where to locate the liquid-cooling plant, or the source of the cooling agent, and the optimal technologies you should use to make the cooling system work in your data center, such as how the system connects to server racks. David Gibbons, a division manager and engineer at Victaulic (www.victaulic.com), says the first steps in planning for a liquid-cooling system involve a needs assessment:

Why is liquid cooling necessary? He says it is important to evaluate the ease of installation and maintenance and the ease of expansion. “Be sure that when designing and specifying the cooling system, you are using an engineer and design-build team that understands the data center environment,” says Gibbons. “You need a system that can not only be quickly installed for the least amount of downtime possible but is easy to maintain, [and is] reliable and easy to expand or change in the future when technology inevitably changes.” Todd Foster, a technician at Technetium (www.technetiuminc.com), is even bolder in his advice about initial steps. He says managers should “get a degree in hydraulics and fluid dynamics,” which hints at the complexity involved. He advises SMEs to initially search for the best method of cooling the liquid, a place to cool it in the data center, and how to do the heat transfer required.

After the initial steps, there are several key pitfalls to avoid, such as when system capacity does not match the IT requirements, Beaty says. “Often, the cooling system is sized and installed prior to final IT equipment selection. Data centers have inadequate plans on how to balance the hydronics and inadequate plans on how to operate and how to make adds, moves, and changes.” Additionally, managers need to consider how the building process will affect business and also consider how the process will impact employees in regard to safety. For example, if your construction project is an expansion or retrofit, you’ll have to

TOP TIPS

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| • Plan, plan, and plan again. Building construction considerations, route planning, and maintenance are all important considerations in implementing liquid cooling in a data center. Once you’ve decided that the benefits are right for you, prepare for the work implementing a system will take and the sacrifices your SME might have to make, such as downtime. | undertaking when considering a liquid-cooling system, it’s perhaps the most important, as it determines the level of cooling you will see with servers and other equipment. | operation during the installation. |
| • Routing is key. While this might be the largest | • Use grooved mechanical pipes. Don Beaty, president of DLB Associates Consulting Engineers, advises those considering liquid cooling to use grooved mechanical pipes to join systems, which will provide greater flexibility and the ability to continue | • Remember greater efficiencies. Todd Foster, a technician at Technetium (www.technetiuminc.com), says a liquid-cooled data center is 40% more efficient than an air-cooled data center, which means managers can plan on using fewer air-cooling systems and spot-coolers. At the same time, Foster says new advances in liquid-cooled spot cooling can also help increase efficiencies. |

disk. Bongard advises checking with your firm’s software vendor to see what options are supported.

Other methods of backup include SAN-to-SAN replication and offsite Internet-based remote backups.

Offsite SAN-to-SAN replication has good performance characteristics and offers deduplication. It is reliable because data is offsite. Also, the remote data storage center can be used as a disaster recovery operation site. On the downside, it is expensive, requires an offsite location, is complex to set up, and is something that requires constant monitoring.

An offsite remote backup service is reliable and moves data far away. Offsite is great for very important smaller data sets. Performance is decent, and it does not require an SME to run its own disaster recovery site. Among the pitfalls are costs and the fact that stored data is not on the company’s own equipment.

Although the time to back up with an off-site solution is swift and the footprint required at the home office is slight, offsite solutions typically stumble when it comes to ease-of-access to recover data when there has been a failure. Nothing beats having the data near at hand both for speed and convenience.

SMEs also can save storage space with deduplication technology. Deduplication

Key Points

- The method of backup you choose for your SME could determine the speed of your backup.
- When choosing which method is best, remember the three C’s of backup: capacity, CPU, and cache.
- To speed up your backup process, make sure you deduplicate stored data whenever possible.

will save the company from carrying the same data into the backup. Rather than eating up time sending multiple copies of the same CAD drawing, for example, it sends only one. This WORM (write once, read many) technology saves time and effort all along the line.

For those who use tape, a virtual tape library can fool the application into thinking it is writing to tape when it really is writing to disk. This is another backup time-saver. Later, the data can be moved offline to the tape library.

Put it all together, and your company will get the gold medal for swift, accurate, and reliable backup performance. 

Just as an Olympic runner strives to shave seconds, so does an SME have to look at all the possible ways to cut time and cycles out of the backup process.

consider mandatory safety regulations and how employees will fit in. Sometimes complying with regulations can lead to downtime for your company.

But downtime could become even costlier if construction is rushed—if you try and play catch up, it might lead to an increased risk of injuries. By making the right decisions during the construction process, you can not only limit injuries and reduce downtime but also prevent future problems, such as repairs.

Another pitfall to avoid is not planning for downtime. In many cases, a data center might start installing a liquid-cooling system without realizing how the extra maintenance and fine-tuning can cause downtime. Unlike other kinds of technical advancements in a data center, such as virtualization, liquid cooling can often require a complete shutdown of services to avoid

Key Points

- Before you implement a liquid-cooling system, determine what business problems you will solve.
- Once you’ve considered all of your options, decide where you want the cooling system to be placed and what technology you will use for your liquid-cooling system.
- Plan accordingly: Your main costs will be equipment and outsourcing to liquid-cooling experts.

are costs for heat exchangers, pumps, bands, piping, electricity, [and] labor to install, design and assemble, and engineer the pieces together.”

Costs for liquid cooling might vary depending on several different factors.

install problems. Finally, you need to make sure you don’t undersize the electrical system used to move liquid through the cooling system and remove the liquid after cooling, says Foster.

Costs Involved

Costs for liquid cooling might vary depending on several different factors, including the size of the data center, the technology used, where the cooling plant is located, and how much of the work is outsourced. Plus, according to Foster, “There

These costs might vary by a huge amount, adds Beaty. “It depends on how much of a base system [one cooling plant] can be utilized. Also, the level of reliability required and the physical geometry—whether the data center is in a high rise or at the perimeter of the building—have a big impact.”

Overall, liquid cooling does present challenges, especially in ongoing maintenance and in the construction issues that may arise for an existing data center. Yet the benefits and ultimate rewards are great, as they result in a much more efficient cooling system. 

New Tools For Virtualization

AppCritical Version 4 Monitors Full Network Path

by Tessa Warner Breneman

VIRTUALIZATION AND cloud computing have emerged as a new way to improve IT effectiveness for enterprises and service providers. Because of decreasing IT budgets, these tools are especially useful as they also don’t increase costs. Apparent Networks has introduced Version 4 of AppCritical (an enterprise platform for network performance management) and AppCritical Report Server (a new add-on module for reporting that works alongside AppCritical Version 4) to help meet the needs of IT decision makers looking for virtualization and cloud computing solutions.

AppCritical Version 4 is designed with better reporting capabilities, including accelerated on-demand report generation, more customization options in regards to dashboard reports, and features that simplify brand performance reports with logos, titles and other components.

According to Jim Melvin, president and CMO of Apparent Networks, AppCritical is different from other products in its class because it monitors the full network path on an end-to-end basis, which is the most effective method of measuring true network performance.

“This full-path view is becoming indispensable as companies move away from traditional business software to cloud-based services such as Google Apps,” Melvin says. “With their deployments of

cloud-based services and distributed applications, our capability to measure and diagnose problems on any network segment, regardless of who owns or controls it, eliminates a major blind spot for IT teams in these organizations.”

Melvin also says AppCritical has a unique ability to assess network performance with latency-intolerant applications such as VoIP, IP-video conferencing and unified communications in a way that does not impact performance in production networks.

The AppCritical Report Server utilizes and broadens AppCritical’s base-level reporting technology to help network operations teams take note of how IT services better business performance. It offers graphs to help depict network performance along with user-defined service quality levels. Additionally, it offers automated report generation, recipient list construction, and report allocation.



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SIX QUICK TIPS

Trim The Data Center Budget

Simplifying & Consolidating Your Setup Can Save Money In The Long Run

by Drew Robb

• • •

SOMETIMES YOU HAVE to spend a little to save more. But occasionally, there are cost savings staring you in the face that don’t cost you anything but time and effort. These money-saving tips for the data center cover both ends of the spectrum. Whether you have some sort of budget for new technology or none at all, there is something here you can implement to trim data center spending.

Consolidate Onto High-Density Servers

With 4-, 8-, and even 16-core configurations becoming available from server manufacturers, more and more OEMs are releasing models designed to help enterprises consolidate multiple Unix, Linux, or Windows workloads onto much smaller footprints. In addition to cutting down the long-term costs of server hardware itself, this also saves money by freeing up data center space, reducing the power bill, and slashing the amount of cooling needed overall. In addition, the management and troubleshooting burden is often significantly cut down.

Steven Sibley, manager of Power Systems servers at IBM, says SMEs can lower

operational and energy costs by consolidating and optimizing applications onto one platform, resulting in a more dynamic infrastructure that in turn increases business flexibility, agility, and efficiency.

Put simply, multicore chips provide more bang for the buck. With two or more times the number of cores compared to older processors, a lot more performance and efficiency is packed into the same amount of space. The latest models also often provide more than twice the performance per watt when compared to the previous generation of

products from the same manufacturer. Therefore, as older machines reach end of life, SMEs should swap out multiple small boxes for a smaller amount of more dense gear as a way of cutting costs.

Reduce Infrastructure Complexity

According to numbers from EMC, about 70% of the typical IT budget is spent on operating and troubleshooting the infrastructure and applications that already exist in the data center. That leaves only 30% of the budget for investment in and implementation of new applications and infrastructure.

“It is possible to reduce the cost of keeping the lights on and maintaining the underlying plumbing,” says Sandra Hamilton, vice president of the infrastructure consulting practice at EMC. “One simple way to start is by reducing the backup load via deduplication.”

Most deduplication studies show a reduction in backup volume of at least 10 to one. That means 90% less disk, lower bandwidth demands, shorter backup windows, and a big drop in backup administration. By instituting deduplication as a first step toward infrastructure simplification, organizations can

start down the road toward an environment that is easier to manage.

“It has become necessary to simplify the IT environment,” says Hamilton. “Fewer switches, NICs, servers, and arrays mean fewer points of management.”

Reduce Disk Costs With Storage Tiering

Lou Przystas, senior advisory consultant for the corporate executive briefing center at EMC, gives an example of how to reduce costs by implementing the latest in storage tiering involving two configurations of 55TB. One consists of 244 300GB FC (Fibre Channel) disks that run at 15,000rpm. By reducing the number of FC disks to 136, adding 32 SATA disks (each 1TB), and adding eight 73GB solid-state drives, you still have 55TB but end up with a lot more performance, lower power consumption, and reduced cost.

“SSD is revolutionizing the industry,” says Przystas. “By implementing storage tiering intelligently so you have 28% fewer drives, you can end up with 60% more drive I/Os, 21% less power and cooling, and 17% lower drive costs.”

Although SSD costs are high, they have come down a lot over the past year. And one SSD equals the I/Os of 30 15,000rpm FC disks. By setting up SSD for the fastest applications and the most heavily used data, FC for the second tier, and SATA for volume storage of less frequently accessed data, big gains can be realized. “You don’t need to put everything on SSD—only performance-critical stuff,” says Przystas.

Manage Airflow Intelligently

Bob Blough, director of product marketing at Emerson Network Power (www.emersonnetworkpower.com), believes airflow

BONUS TIPS

■ **Eliminate under-floor blockage.** The next time you are in the data center, pull up a few tiles and take a look. If it is clogged with cables, boxes, and/or other clutter, it is time to eliminate under-floor blockage, says Bob Blough, director of product marketing at Emerson

Network Power (www.emersonnetworkpower.com).

■ **Watch for orphan tiles.** Perforated tiles in the wrong places can be spilling cold air in the wrong places. Perhaps at one time, servers used to reside there and needed those tiles, but not anymore. So peri-

odically check for tiles where they don’t belong in order to reduce the cost of cooling.

“About half the data centers I visit have perforated tiles in wrong areas,” says Blough. “I’ve even found some perforated tiles leaking cold air directly into the hot aisles.”

SIX QUICK TIPS

Hiring Third-Party Consultants

Tips To Help You Avoid The Perils & Reap The Benefits

by Bruce Gain

• • •

THE PAYOFFS associated with relying on consultants for data center projects and expertise can be tremendous. Not only can a third party accomplish tasks for less money than it would cost to hire a full-time staffer, but they can also temporarily plug holes when no one in-house has the know-how for certain jobs.

Unfortunately, the consultant path is paved with risks. According to Rob Enderle, principal analyst for the Enderle Group, enterprises often run into problems when using the services of an outside consultant. “Most firms seem to start with the consultant and spend a lot of money on the wrong person with inadequate executive support and, at the end, will

still have no idea what it was they really wanted the consultant to do,” Enderle says.

Here is a series of tips that show how to reap the benefits of third-party consultants while avoiding the pitfalls that can easily make a good opportunity go bad.

Get Management Support Beforehand

It happens all too often: A consultant develops a new network-based application, systems upgrade, cooling system, or another major project after a great deal of time and expense, but then someone outside of the IT department from the upper-management ranks pulls the plug on the project before completion. It is thus necessary to get management on board from the outset and to

make sure that the person who has veto power also trusts your judgment to hire the right consultant. “You need the support of executive management for whatever the consultant recommends,” Enderle says.

The dilemma is made worse when no one on staff has the expertise to evaluate neither what the consultant recommends nor what you really need, making it that much more difficult to convince management to invest in something that was unexpected.

“You need to know what you need, you need the support of executive management for whatever the consultant recommends, and you need to have the core expertise needed to evaluate experts,” Enderle says. “If any one of these isn’t in place, the effort will be a waste of money, and the result won’t be successful.”

Consider Professional Engineers For Larger Projects

Consultant firms run the gamut of purposes, including those that will set up new software and data center design companies, so the challenge is to assess different levels and depths of expertise that are required for a particular job. For major infrastructure projects that involve cooling or for power supply designs for computer rooms that serve 500- to 1,000-user networks, for example, the requisite qualification bar is high. Consultants should have both computer room design

experience and PE (professional engineer) certification for major infrastructure projects, especially when it involves power and cooling for major data centers, says Michael Petrino, vice president of PTS Data Center Solutions (www.ptsdcs.com).

Someone with years of data center design experience who does not have a B.S. in engineering and is not PE-certified is unfortunately not up to the job of managing builds for most medium-sized or large-scale data centers, Petrino says.

Contracts offer an opportunity to spell out exactly what is expected of the consultant.

“It is a double-edged sword: Just because they are a PE does not mean they are a data center expert,” Petrino says. “Conversely, there are plenty of guys who don’t have their PE, are data center experts, and know what it takes to go in and out of it, but, unfortunately, there is a lot to be said for accreditation.”

It is necessary to use a consultant with PE certification “when you really need to start thinking about cold aisle/hot aisle layouts and a 10-rack environment,” Petrino says. “If you are going to build more than 10 racks with a power density of greater than 8kW per rack or 40kW worth of uninterruptible power supplies, then you have to have somebody

BONUS TIPS

■ **Don’t give the data center keys to just anyone.** It’s always a good idea to limit the number of people who enter your data center, given the security risks involved, says John Matzek, co-chief executive officer of Logic IT Consulting (www.logicitc.com). “If [a consultant] has physical access to your data center,

they would be able to gain access to any of your applications, so make sure it’s a person you can trust,” Matzek says.

■ **It’s more than just business.** It is helpful to think of consultant hires like you would when adding full-time staff to your department. After all, you

will be working with that consultant or group of consultants closely. “It’s a relationship and not just a business transaction, so the better your consultant interfaces with your organization, the better the outcomes will be,” says Brad Kowal, assistant data center director for Shands HealthCare in Florida.

management is key to cutting costs. The basic concept is to only move cold air to where it is needed, as different racks have different airflow requirements. By adjusting the perforated tiles beside server racks, cooling costs can be reduced.

Standard perforated tiles, for example, enable an airflow of 500 to 600cfm. But some tiles are available that can get to 1,500cfm. Tailor the various tile sizes to the cooling requirements of each rack.

“Different servers require different airflows,” says Blough. “A rack with 4kW of gear inside might only need 500cfm tiles, while an 8kW might need 1,000cfm tiles.”

Simplest Tip:

Seal Those Leaks

Watch out for openings above the data center ceiling, such as from incoming pipes and air ducts, where you might be losing airflow due to gaps in the walls. Before even thinking about moving to high-density equipment, seal all leaks above or below the floor. According to Bob Blough, director of product marketing at Emerson Network Power (www.emersonnetworkpower.com), up to 35% of airflow is lost due to leakage.

“[About] 0 to 5% of air losses are from tile leaks, 0 to 10% are from room leak, and 10 to 30% are from cable cutouts in tiles, etc.,” says Blough. “Once air losses are mitigated, optimize the performance of the cooling unit.”

Best Return On Investment:

Consolidation Through Virtualization

Virtualization is an excellent way to consolidate workloads. But where should you start? Sabine Waterkamp, president of managed service provider ACSLA (www.acsla.com), says the smart way to begin is by assessing existing servers to discover the current CPU load.

“If all servers are running at 70%, there is no point in virtualizing,” she says. “Take an inventory and begin with the low-hanging fruit.”

As a rule of thumb, Waterkamp says virtualization tends to be better suited to application servers and Web servers. With more

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involved [who is PE-certified] to help you do that,” Petrino says.

Establish Protocols To Follow

The top expertise money can buy is not worth it if the consultant can’t abide by the protocols within your enterprise’s data center operations. Certain protocols are especially important in the health care, education, and government sectors. Instead of worrying about how to repair the damage that an outsider might cause who refuses to play by the rules, make sure that consultants know exactly what they should and should not do before stepping anywhere near your data center.

“If there are work rules (change management, internal procedures or policies, etc.) that must be followed in your organization, make sure you discuss them in advance with the consultant,” says Brad Kowal, assistant data center director for Shands HealthCare in Florida. “Get feedback as to how they would work with you in regards to accomplishing the project while working within your organization’s demands.”

Put It In Writing

Most third-party consultant relationships involve contracts, such as those that a consulting firm will send, specifying the terms of their services, prices, and remedies if things go wrong. But contracts can work for you, as well, by offering an opportunity for your enterprise to state explicitly what is expected and what you can do if the terms are not met.

“Before you hire them, make sure you have a contract or a state of work,” Kowal says. “It’s very important to spell out exactly what needs to be done, by when, [and] within what boundaries and what the penalties will be if contractual items are not delivered.

So protect yourself by outlining together the deliverables and putting them in writing.”

Best Tip:

Specialization Is Key

Large firms purporting to offer anything and everything IT-related will probably lack the specialized expertise you need. Firms with a specialty focus on, for example, electrical engineering services, data center HVAC or cooling, or security can be good picks, says Brad Kowal, assistant data center director for Shands HealthCare in Florida.

“I’m a big fan of hiring or using consultants that are subject matter experts or a consulting company that can bring the required different specialties to bear,” Kowal says. “No one consultant can understand or specialize in all aspects of data center management.”

Best Return On Investment:

Seek Out & Find The Second Best

The best specialty consulting firm for your particular needs will likely charge a premium. However, the second best can be pretty good—and come at a cheaper price. “Usually the No. 1-ranked top consultant prices themselves out of the selection when asked for bids, so don’t be afraid to go with consultant No. 2 if their background checks out,” says Shands HealthCare’s Kowal.

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Icahn Sells Millions Of Yahoo! Shares

Carl Icahn, the Yahoo! board member who pushed for the removal of former Yahoo! CEO Jerry Yang and advocated a partnership between Yahoo! and Microsoft, has sold nearly 13 million shares of his Yahoo! stock since late August. Icahn's stake in Yahoo! has dipped to 4.48% from 5.38% as of June 30. He reportedly took a \$125 million loss on the sale, which was conducted to better balance his portfolio of technology stocks. Following the sale, a mid-August memo from Yahoo! CEO Carol Bartz that was leaked and published online reminded Yahoo! employees that "our average user is just trying to get through the day" and "they don't care about how or about deals. They care that we are a trusted dependable site." Icahn's filing read, "The reporting persons continue to believe in the wisdom of the Microsoft-Yahoo! search transaction and fully support the performance of the Issuer's CEO Carol Bartz."

New Social Security CIO Named

Former IBM business strategist Frank Baitman was named the new CIO of the Social Security Administration. Baitman, who fills a position that has been empty since January, will oversee a \$1.3 billion IT budget and lead the administration's cyber-security, e-government, IT capital planning, and investment control efforts. Baitman was employed by IBM from 1996 to 2000. In addition to working as director of corporate strategy, he assisted in the launch of IBM's life sciences business. More currently, Baitman worked as a business strategy consultant, president of security and surveillance software firm Petards, and president and director of technology policy for DynCorp. "Frank has extensive global and domestic experience in both large enterprises and small companies, balancing strategic problem-solving with tactical execution," says Social Security Administration Commissioner Michael Astrue. Beyond building a new data center reportedly valued at \$750 million, the SSA is expected to soon open a new backup facility for IT operations.

Study Reveals Latest Search Statistics

According to figures released by comScore, worldwide Internet searches increased 41% during the month of July, reaching 113 billion searches—up from about 80 billion in July 2008. Google sites account for about two-thirds of the 113 billion searches, showing an increase of 58% year-over-year; coming in a distant second is Yahoo!, with about 8% of the search market. Rounding out the top five are China's Baidu, Microsoft, and eBay. Regionally, Europe is responsible for the most searches (32.1%), and Latin America showed the highest number of searches per searcher (130.4). North America accounts for 22.1% of searches and shows an average of 110.6 searches per searcher.



SECURITY

Bolstering Mobile Security

Minimize Exposure When Data Migrates To Handhelds

by Carmi Levy

THE SHIFT TO MOBILE DEVICES is well underway and will only accelerate in the years to come. As more employees carry increasingly complex and capable mobile devices, enterprise applications are also moving onto handhelds. Despite the productivity-enhancing benefits to the enterprise, the transition doesn't come without risk. Not surprisingly, that risk is as old as business itself.

Key Points

- Because mobile devices can carry significant amounts of enterprise data, securing it and keeping it out of reach of strangers or criminals is critical.
- Companies need to consider how they want to deploy information and how employees will use that information.
- Before deploying any mobile solution, write and distribute detailed terms of use or acceptable use documentation that specifically deals with data ownership and the consequences associated with mismanaging it on a mobile device.

According to Eric Maiwald, Burton Group's vice president and research director of security and risk management strategies, "The biggest issue with mobile devices continues to be their loss or theft. When that happens, any sensitive information on them goes with the device."

A Database In Your Pocket

Because mobile devices can carry significant amounts of enterprise data either internally or on high-capacity memory cards, securing it and keeping it out of reach of strangers or criminals is critical. Maiwald outlines the following three best practices that, if implemented before deploying devices to employees, can prevent a data-borne disaster.

Data encryption. Some platforms incorporate this form of security on an end-to-end basis; other platforms do not, and enterprises may need to consider third-party encryption solutions.

Authentication. At its simplest, authentication could involve a password to access the physical device. Maiwald recommends treading carefully with more involved solutions, such as smart cards and fingerprint readers, "as they can add significant annoyance and are usually not warranted."

Remote wipe. The ability to remotely destroy all data and applications on the device after it has been reported missing or stolen is great insurance, but Maiwald says not all remote wipe solutions are created equally. "Some of these mechanisms just remove the references to the files," he says. "If you don't actually overwrite the memory, someone who has acquired the device can potentially gain access to the data that's still there."

"Today's mobile devices are becoming so complex and can potentially carry so much data in them that companies need to ask themselves what the trade-offs are," says Jack Gold, president and principal analyst of J.Gold Associates. "[Companies] need to know what their people are carrying around, because the exposure is there."

In many respects, the issues currently playing out in many mobile deployments mimic those experienced years earlier when laptops became mainstream tools for road warriors. Gold says companies—just as they did when planning laptop roll-outs—need to consider how they want to deploy information and how employees will use it. The answers will help determine whether they implement full-blown enterprise applications for handheld users or follow a thin-client model.

"Ask yourself if you really need to have a heavy application with lots of data on the device, or consider whether we've gotten to the point where networks are good enough that you can provide a light app in the cloud that can be accessed from the handheld," says Gold, adding the cloud-based paradigm may not be for everyone. "If you need to do intensive data searching and sorting, for example, sometimes it's more convenient to do it locally on a device that has a lot of storage and processing power.

"This is going to be about trade-offs," adds Gold. "There is no one right answer for every company. Talk to your end users and find out what they really need to do and how the selection of a thin client, a thick client, or something in the middle will affect their work."

Who Owns What?

Mobile security is influenced by the organization's decision to either buy the devices outright or allow employees to use their own handhelds. While the latter case can reduce budget pressure on IT, it opens up opportunities for misunderstanding between the company and the employee. Although the employee buys the device, the enterprise retains accountability for the work-related data on it.

"That's one of the areas where you can get into interesting disagreements," says Maiwald, adding that many organizations fail to document acceptable use policies that specify both the company's and the employee's responsibilities in keeping mobile devices, and the data that's stored on them, safe.

In situations where employees buy their own devices and use them to access enterprise applications and related resources, Maiwald says companies can reduce their exposure by requiring registration. IT could, for example, require BlackBerry devices to be registered on the corporate BlackBerry Enterprise Server. Apple iPhone users would similarly be required to register their devices on the Exchange Server. In both cases, this allows IT to push out policies that facilitate employee compliance and also maintain centralized

monitoring. Generally speaking, Maiwald says that pushing out policies for employee compliance is an acceptable trade-off for many organizations and is better than no oversight at all.

Document It

In cases where employees bring their own devices into a company, Gold advises IT to publish some guidelines for acceptable and unacceptable choices. While allowing employees to purchase their own mobile devices can save the organization money, it can result in disagreements over who owns the data on the device. Before deploying any mobile solution, write and distribute detailed terms of use or acceptable use documentation that specifically deals with data ownership and the consequences associated with mismanaging it on a mobile device.

"Some handheld platforms are wide open, while others are fairly secure," says Gold. "An Android-powered device may be a cool phone, but there isn't a whole lot of corporate stuff on it."

Gold says platform choice is especially important for mobile use because, unlike laptops, the market is relatively heterogeneous, with radical differences in hardware, operating systems, and software standards among vendors.

Security For Mobile Devices

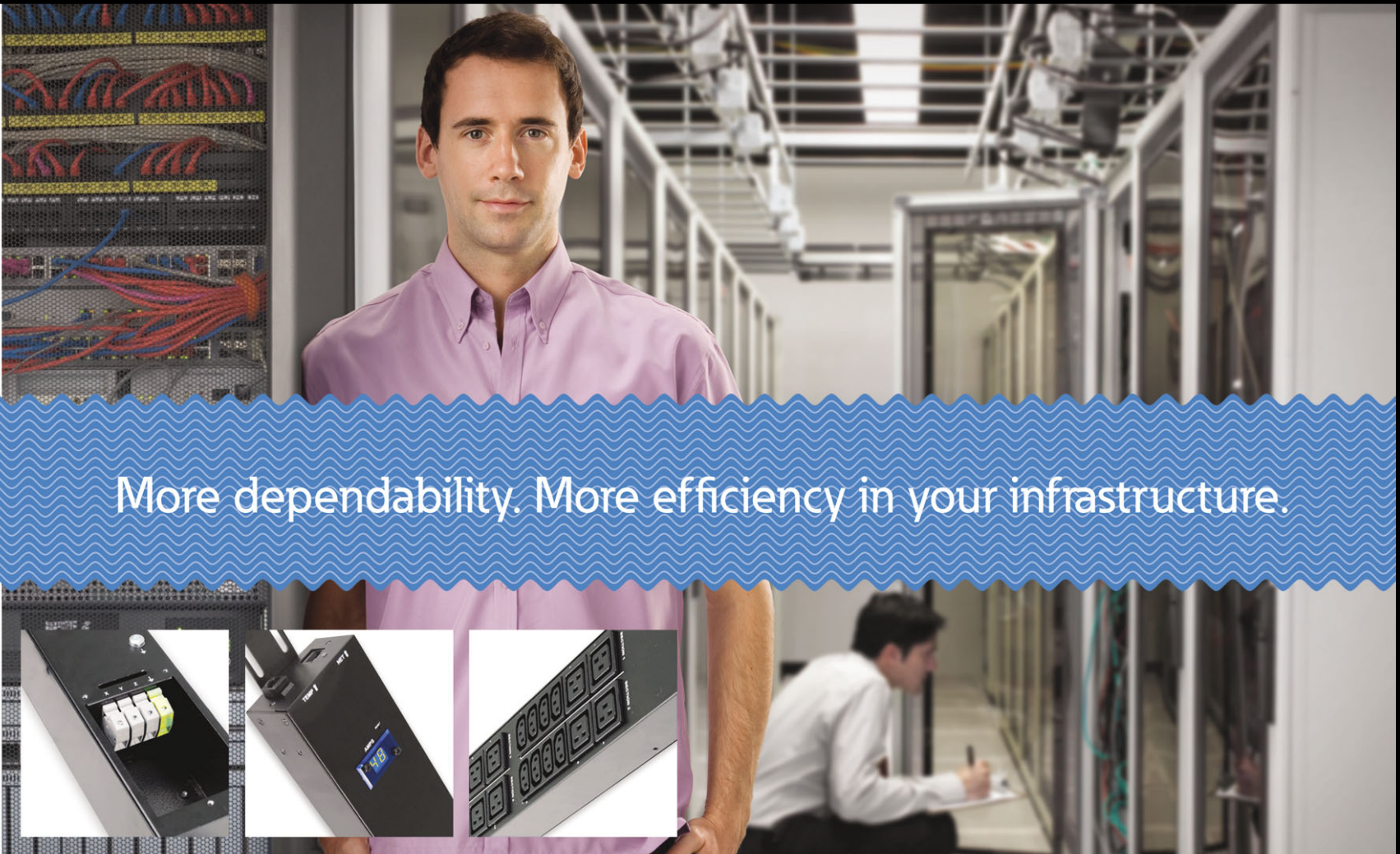
Choose a mobile platform that incorporates the three following capabilities:

- Data encryption that keeps information from being accessed if the device is lost or stolen
- Authentication that allows only authorized users to gain access to apps and data on the device; password locks are most popular, with smart cards and fingerprint readers also available for higher security deployments
- Remote wipe that allows IT to destroy all apps and data wirelessly after a device is lost or stolen

Gold says it is legitimate for a company to tell employees that they can buy whatever devices they want. However, unless a device has certain features and capabilities, the company may not support it.

Michelle Warren, president of Toronto-based MW Research & Consulting, says compatibility with existing infrastructure is an issue that can potentially cost organizations on a number of levels.

"While it isn't considered a traditional 'vulnerability' if devices or software applications do not work well with existing hardware, software, or the network, both the business unit and the IT department are in for scores of headaches," says Warren. Those headaches could include elevated IT support costs and increased risk of data loss.



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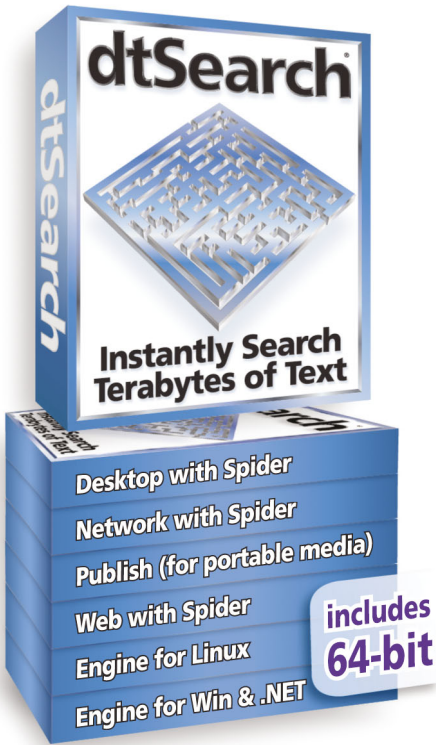
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SERVERS & STORAGE



Linux Servers In The Enterprise

Who's Adopting, Why & How?

by Bill Hayes

• • •

WITH ONE IN FIVE SERVERS worldwide currently running the Linux operating system, Linux has been making fresh inroads into the server market. According to IDC, Linux server shipments worldwide have increased by 35% since 2003.

Overall, IDC states that use of Linux grew 23.4% from 2007 to 2008, with an expected compound annual growth rate of 16.9%. IDC predicts that by 2012, Linux operating system revenue will cross the billion-dollar mark, with \$1.3 billion expected the following year.

Linux server operating system subscriptions are expected to shrink slightly this year, followed by a steady recovery through 2013. According to Al Gillen, program vice president, system software, at IDC, the expected decline in server hardware purchases should be responsible for the diminished Linux server rollouts this year. By contrast, nonpaid Linux server operating system deployments are expected to grow more quickly than new subscriptions through 2013.

Laurie F. Wurster, research director for Gartner, agrees with Gillen's assessment,

adding, "Proprietary server OSes and Unix continue to be substituted by Linux and Windows owing to these OSes' complexity and limited and expensive support resources," she says. "Platform openness, a better cost-performance ratio, the availability of applications, and more use cases on mission-critical systems have driven Linux adoption," Wurster notes.

Deployment Enthusiasm

Michael Applebaum, senior product marketing manager at Novell (www.novell.com), is optimistic about future Linux server deployments. "Linux adoption is widespread across countries [and] industries and different sizes of customers," he says.

"Growth is occurring across the board," says Nick Carr, Red Hat marketing director. Carr notes that Linux is widely used by Web and infrastructure services and also by most of the global service providers.

Applebaum says that enterprises are increasingly turning to Linux for its increased flexibility, improved performance, and stronger security. The Linux operating system also can offer substantial savings, he

says. "We see that customers can literally save thousands of dollars from even a small deployment when you consider the savings on the server operating system licenses/subscriptions, management software, and CALs (client access licenses)," he says.

"Linux's primary attraction is high quality combined with excellent price/performance," says Carr. Other features that rank high with customers include better security, more cost-effective virtualization, and consistency across multiple hardware architectures, Carr says, in addition to reduced hardware requirements when compared with other operating systems.

Implementation Concerns

Both Carr and Applebaum agree that Linux server deployments are not as daunting as they were previously for SMEs.

"Linux deployments for SMEs are much easier today than in the past due to broader hardware support, easier-to-use management tools, and more guidance in the installation phase," Applebaum says. "Furthermore, ISVs (independent software vendors) today are better aligned to Linux

and their offerings are easy to install and use with Linux," he says.

A predominately Windows shop should determine if the server application is available for Linux, Applebaum says. "If a particular application keeps a customer locked into his/her existing technology environment, the customer may want to consider changing the application first in the existing environment and then moving to Linux in a second step."

Carr acknowledges that large .NET infrastructures are not likely to be easily migrated to Linux, nor are small Windows applications. Carr says that SMEs that want to use these types of applications could deploy them on a Linux server in virtual machines running Windows. But, Carr says, for customers who start small and learn the ropes, the return on investment will be rapid.

In terms of which Linux version to implement, Applebaum says some Linux users prefer using the unpaid Linux version. "It's a

Key Points

- Linux server deployment is typically easier than in the past because there are more application versions for Linux. Still, quirky legacy applications can slow deployment plans. Fix them first, and then move to Linux.
- Choosing unpaid "free" Linux and "free" support over paid Linux server installations and the help of Linux consultants depends on your shop's in-house Linux talent pool and your willingness to tolerate "free" support delays against server downtime.
- Be sure to create a thorough migration plan before deploying Linux.

PHYSICAL INFRASTRUCTURE



Disaster-Proof Data Centers

Companies Look To Bunker-Style Hosting Sites For Protection

by Sue Hildreth

• • •

CIOs WHO WORRY about what a bad storm, flood, or fire could do to their corporate data center might consider the ultimate in disaster recovery sites—the bomb shelter. There are a handful of underground data center hosting sites, built in old bomb shelters or mines, and their popularity with private businesses is on the rise. "We see a lot more [bunker-style data centers] coming up," says Michael Petrino, vice president of data center consulting firm PTS Data Center Solutions (www.ptsdcs.com), who says he's worked with 10 such data centers over the past few years.

With names like The Underground and InfoBunker, their purpose is fairly clear—to offer total protection against any and all disasters that might bring down a regular data center. Petrino points to financial firms, utility companies, and any publicly traded company that is subject to Sarbanes-Oxley and other government regulations as being prime customers for hardened data centers. Continental Airlines, for example, has a

backup data center inside the Montgomery Westland bunker (www.westlandbunker.com) in Montgomery, Texas, which is a former nuclear fallout shelter.

Other companies don't have such sensitive operations as an airline or bank but still want the security of having an indestructible backup location. Wikia, which operates a consumer publishing platform, went looking for a disaster recovery center in 2007 and wound up renting space inside the United States Secure Hosting Center (www.usshc.com) in Monticello, Iowa. The Iowa center offers a central location between Wikia's primary San Jose and secondary New Jersey data centers and pretty much guarantees that Wikia sites won't be down should there be a major disaster on either coast.

"We wanted a disaster recovery location mainly to protect against fire and earthquake in the Bay area. Our entire business relies on being online, so we need to be able to continue to function if [our] primary data center goes away," says Artur Bergman, the VP of engineering and operations at Wikia.

There were other factors behind the decision, namely service levels and costs. Bergman notes that the real estate costs are lower in Iowa, compared to California and New Jersey, leading to more attractive rates for data center space. But the fact that the center was underground and essentially disaster-proof was also an attractive feature. "If we are spending that money for disaster recovery, we felt it should fit that function as well as possible," says Bergman.

Behind The Bunker

The majority of the data center bunkers in the U.S. were originally built as either bomb shelters or bomb-proof communications facilities for the government during the Cold War or are inside old mines or caves. USSHC, for instance, was originally one of several bunker locations established by the U.S. government to protect military

and government telecommunications links in the event of a foreign attack on the U.S. Iron Mountain's The Underground, the oldest bunker data center in the U.S., was formerly an iron ore mine.

Computer data and communications are at least as important as electricity to most businesses, and a disaster could put this important data at risk. Considering this, the idea of putting the corporate server inside a bunker may sound pretty good to many CIOs. Even fairly small-scale local disasters can quickly create a surge in interest for disaster-proof data centers. When Iowa experienced flooding last spring, and hundreds of businesses in Iowa City and Cedar Rapids found themselves with waves lapping at their doorsteps, USSHC began fielding a deluge of inquiries, often from businesses looking to move in that week.

U.S. Data Center Bunkers

Data Center	Location	URL
Cavern Technologies	Lenexa, Kan.	www.caverntechnologies.com
DataChambers	Winston-Salem, N.C.	www.datachambers.com
InfoBunker	Des Moines, Iowa	www.infobunker.com
Iron Mountain	Butler County, Pa.	www.ironmountain.com
Montgomery Westland	Montgomery, Texas	www.westlandbunker.com
Prairie Bunkers	Hastings, Neb.	www.prairiebunkers.com
StrataSpace	Louisville, Ky.	www.strataspace.com
SpringNet Underground	Springfield, Mo.	www.springnetunderground.net
US Secure Hosting Center	Monticello, Iowa	www.usshc.com

mix of the two, depending on each customer’s knowledge, preferences, and needs,” he says, “but many customers find that consulting services more than pay for themselves via faster time-to-deployment, lower risk, and greater exploitation of the rich capabilities delivered by enterprise-class Linux.”

Carr agrees, saying that customers often start off using free variants of Linux so they can see how well it works. Once customers are successful, their usage of Linux grows to the point that it becomes essential to their computing infrastructure. “At that time, it makes sense to switch to a more formal, professionally supported environment, and most customers do,” Carr says.

The decision to use paid support for a Linux distribution instead of free support through online forums and Linux HOWTOs should be straightforward for SMEs, Applebaum says. “SMEs tend to deploy a maintained and supported platform rather than using free support. But this depends very much on what types of workloads they run, what types of configuration and system architecture they use, and how much Linux expertise they possess in-house.” He notes that the cost of Linux support pales in comparison to the potential cost of service downtime or data inaccessibility.

Deploying Linux

There are several approaches to deploying Linux servers for the first time. Carr suggests starting with a small project in a low-impact deployment. Another approach is to use Linux in a greenfield deployment where previous work will not hinder deployment. A third approach is choosing Linux based on advice from the application provider.

Increasing The Linux Server OS Market Share

According to a Novell spokesperson, Linux distributors such as Novell; the open-source community; and key technology partners such as Intel, IBM, HP, and SAP have worked together in many areas to make Linux the clear OS platform of the future.

“This innovation has made Linux a more reliable, scalable, and high-performance platform, allowing it to take share from Unix as customers upgrade their infrastructure and migrate from outdated proprietary Unix platforms,”

says Michael Applebaum, Novell’s senior product marketing manager.

Applebaum cites the growth of talented Linux system administrators along with Linux consulting and training services as factors making it easier for Linux to take a greater share of new server deployments.

Applebaum says that the Linux talent pool is large and growing rapidly from two sides. First from the universities, where young developers who focused mainly on Linux are

entering the job market, and, secondly, from inside companies, where the established staff have been learning and using Linux because of customer and budget demands.

According to Applebaum, IT professionals have been gaining Linux knowledge and certifications in large numbers. “Many of those who previously worked with Unix are well versed in Linux and even prefer it now, due to the rapid pace of innovation taking place in Linux relative to proprietary platforms.”

Gartner’s Wurster suggests SMEs make a thorough migration plan before deploying Linux. Consider the project’s duration and map applications that can be immediately migrated, she says, being sure to note all migration costs and support deadlines.

When setting up a migration plan, Wurster says SMEs should evaluate if the desired application is supported in Linux, noting that some application projects may not be supported directly by the desired Linux distribution or may not be scalable to the desired size. Also be sure to determine the effects on other software that may be dependent on external data from Windows-only applications.

Be sure to evaluate hardware requirements to see if existing hardware can be

used or if a new server will have to be purchased, Wurster notes, along with Linux driver availability. Be sure to also check for licensing issues, the availability of resources for testing and migration, Linux knowledge with the organization, and patent infringement protection.

“Do not assume Linux to be a straightforward migration from Windows,” Wurster says. “Many factors and dependencies of high and low risk must be considered.” She adds, “Once these factors are mapped and a complete picture of current situation and future state is considered, a migration can take place.” Wurster notes, “We see organizations make this mistake; they look at license cost only, but do not factor the whole picture.”

“It often takes that kind of an event to get people interested,” says Isaac Helgens, project and marketing director at USSHC. “People often put off colocating because they love their servers, they want to hold them close. But these days, it’s not necessary to have your servers right with you. Anything you can do locally, you can do remotely.”

Helgens notes that a big advantage of a bunker data center is not so much its underground location—though that is important in the event of a hurricane or tornado—but that it is an independent structure, not shared with any other tenant. “We’ve seen good above-ground data centers, with good structures and fire detection, but their own neighbors on other floors presented a high risk. If you have a call center above your data center, for example, then you have a fire suppression system up there that may go off and wreak havoc on the floor below it. There’s also plumbing that can leak. Or another tenant could be running a fireworks factory for all you know,” says Helgens.

What You Get In A Bunker

Underground data centers typically feature 3- or 4-foot thick walls, fire proofing, and fire detection. Generators, fuel tanks, and cooling systems are usually either underground or just under the surface, to protect them from being destroyed by wind or lightning.

Besides the disaster-proof infrastructure, such centers also have high levels of service and security. InfoBunker (www.infobunker.com), in Des Moines, Iowa, offers biometric keypads and pan and zoom security cameras. Cavern Technologies (www.caverntechnologies.com) in Lenexa, Kan., has security guards, smart card access, and

Key Points

- Underground data centers offer ultimate protection against natural disasters and terrorist attacks.
- Hosting companies are taking over old military bunkers or abandoned mines to create data centers.
- Bunkers offer lower cooling costs plus extra security services such as biometric readers and armed guards.

motion detectors. Iron Mountain’s The Under-ground in Pennsylvania provides armed guards, magnetometers, X-ray scanners, and visitor escorts.

As with regular data center providers, bunker centers provide various concierge services and data center staff to help customers manage their equipment. Should a customer at USSHC need to switch its operations to its backup site at USSHC, it provides the staff with work facilities, office space, phones, and other standard equipment. While it assumes that the customer’s staff will come in to man the backup operation, USSHC provides support staff to help get started.

Although the costs of security, services, and infrastructure tend to be higher with a bunker, there are savings in other areas. For instance, underground data centers are naturally cooler and can take advantage of geothermal energy. “Once you go underground, you have a much lower, steady temperature. It’s the same benefit a cave offers you. I’ve seen several reports that put the savings at upwards of 30% per year in energy usage,” says Petrino. Depending upon the region,

utility rates may be cheaper, as well. In Iowa, for instance, customers can get power for \$12 to \$15 per amp, according to Helgens. At the same time, bandwidth rates may be higher if the bunker is in a remote location, as many are. USSHC pays two to three times the rates for bandwidth that they would if they were located in a major city.

For Wikia staff to fly to the Iowa data center, they would have to pay over \$850 per person, with at least one connection. Instead, they have opted to fly into Chicago and drive the extra five hours by rental car. Because they only do it once or twice a year, it’s not a major issue, but for companies that want closer contact with their backup sites, it could be a problem.

For most customers considering a bunker, however, it’s the remote location that adds to the appeal, as it means there is less of a chance for a terrorist attack or security breach. New bunker data centers continue to be opened in rural or small-town spots—such as in tiny Hastings, Neb., where the newly launched Prairie Bunkers (www.prairiebunkers.com) plans to turn 184 WWII naval ammunition storage bunkers into individual data centers. Other companies are working on various underground data center projects, most hosted but a few being built for internal company use. Petrino says he’s aware of at least three financial firms and a government entity that are building their own bunkers.

“As the criticality of data comes into play for more and more businesses, offsite tape storage alone won’t be enough,” he says. “Clients are pushing for more and better data backup. Tapes get lost after all. So if you have these types of [online, secured] facilities, you can be more competitive.”

Survey On IT Recovery

According to the 2009 AT&T Road to Growth Study, U.S. companies generally believe that the economic recession will begin to ease in the first half of 2010—with positive signs emerging as early as fall 2009—and they’re preparing for it.

The results are based on several dozen interviews conducted with IT executives from multinational corporations. On average, represented companies posted revenue of \$4.75 billion and operated in 28 countries.

Key Findings

One of the major findings of the study is that IT executives have seen their ROI time horizons shrink considerably, by about 50%. This smaller window is causing a ripple effect throughout individual companies’ IT departments.

According to Bill Archer, chief marketing officer for AT&T Business Solutions, “A majority (64%) of the U.S. executives stated that the time period over which they evaluate ROI has narrowed as a result of current economic conditions,” with the time period narrowing by 50% or more in some cases. This shortened ROI time period affects the type of projects the companies are willing to invest in; namely, companies are less willing to invest in longer-term projects or those where the return does not come quickly.

As a result, lowering costs while boosting profits has become paramount for IT executives. About 87% of those surveyed stated that these goals were “extremely or very important.”

“Our study found that cost cutting and increasing revenue remain the two primary business goals cited by U.S. companies,” Archer says, adding that IT investments are more crucial than ever to achieving these goals, surviving the recession, and moving



toward growth. The report found that strategies are focused on reducing operating costs, improving collaboration with customers and partners, and enhancing workforce performance and productivity.

Another finding of the study concerns planning strategies. As companies build both short- and long-term strategies, it has become apparent that IT plays a role in both. However, long-term planning has been difficult for companies as the timing of the economic recovery has been elusive to pin down.

Respondents also said that business continuity and security, enterprise mobility, and Web delivery solutions offer the greatest positive impact on their bottom lines.

by Seth Colaner



Printer Industry Sees Declines

Data from Gartner indicates that the printer industry saw a sharp decline of 20.2% in the first half of this year when compared to the first half of 2008. One of the largest contributors to the decline was office printing devices, which had a 24.5% year-over-year decrease. HP still had the largest market share, with 40% of the printer market, but it lost 3.4% from a year ago. Canon (19%), Epson (14.2%), Brother (6.2%), and Samsung (4.9%) rounded out the top five.



The other 15.6% was a combination of unidentified vendors. IDC reported similar numbers, showing that the global hard copy peripherals market fell 21% year-over-year during the second quarter this year. IDC reported global hard copy peripheral shipments of 24.1 million units. Shipment value fell 23.2% year-over-year to \$11.6 billion. IDC's report also shows that HP led the industry in units shipped, but its market share fell 28% over the past year.

HHS To Work On Health Information Exchange

The American Health Information Management Association Foundation will undergo a one-year \$1.2 million State-level Health Information Exchange Consensus Project funded by the U.S. Department of Health and Human Services. Project goals include the expansion of HIE (health information exchange) and state-level HIE governance, organization, and sustainability; more exposure for nationwide SL-HIE advancement; and the establishment of a Health Information Exchange Information Service. The original SL-HIE Consensus Project was announced in 2006 with support from the Office of the National Coordinator for Health Information Technology; continued funding is made possible by the passage of the American Recovery and Reinvestment Act earlier this year.

CEO Of CA Set To Retire

John Swainson, CEO of CA, announced plans to retire by the end of this year. He may step down earlier if a suitable replacement is found. Swainson took over CA in 2005 amid an accounting scandal perpetrated by the former top executives. Under Swainson's leadership, the company emerged from the scandal and saw its profits, credit rating, and stock prices increase. Swainson says the time is right for him to step down from his post and let someone else guide the company through its next phase of growth.

Twitter Plans Revenue-Generating Features

According to Twitter's co-founder Biz Stone, the microblogging service will add new features in the fourth quarter to generate revenue to expand its network and increase the size of its user base. The company will employ an analytics dashboard that will allow corporate Twitter users to monitor the tweets about their companies. Dashboard features will initially be available on a limited basis, with pricing yet to be decided. Twitter also intends to add other business-oriented features, such as the ability to detect and display location of tweets.

Battery Strategy

Maintenance & Monitoring Are Critical For Seamless DC Power Transfer

by Christian Perry

FOR DATA CENTER MANAGERS, an energy crisis has nothing to do with rising prices at the gas pump. Instead, crisis mode hits when data center power fails, and the battery backup systems designed to carry the load can't save the day. Whereas these systems generally can provide peace of mind, poor battery maintenance and monitoring habits can render them useless in times of need.

Never Assume Reliability

Batteries are a must-have component in any critical power system, but they're not a foolproof component, particularly if they're not properly maintained. According to Jeff

sporadic inspections to verify batteries are working as they should. But proper maintenance begins prior to startup, Donato explains, adding that batteries need to be fully charged, properly installed (physically, electrically, and environmentally), and their condition verified to minimize the likelihood of costly retests and equipment damage.

Donato recommends proper inspection and acceptance testing of the batteries before startup, which will deliver a baseline for testing conducted throughout the service life of the batteries. Trend analysis depends heavily on the process of collecting, analyzing, and understanding battery information, and without it, data centers cannot guarantee that the batteries will perform as needed. Undetected abnormalities can leave facilities managers scrambling to replace or repair damaged items while the threat of serious downtime looms over their heads.

Mike Stout, vice president of engineering for Falcon Electric (www.falconups.com), says that when new batteries are installed, they should be allowed to charge for 24 hours. Further, he recommends verifying that all of the equipment to be backed up is connected and turned on. Next, turn off the utility power running to the UPS and use a stopwatch to measure the amount of time that elapses until the low battery warning is active and then immediately connect the utility power to the UPS.

Using the data from this test, create a label that includes the date and time of test, along with the runtime in minutes and seconds, and attach it to the top of the UPS. Repeat this runtime test every three months and update the date, time, and runtime on the label. When the battery runtime drops to 80% of the first recorded runtime, replace the battery (or batteries), Stout says.

Donato, service product manager with Emerson Network Power's Liebert Services (www.liebert.com), batteries not only represent a significant part of the cost of power systems, but they're also the least reliable component.

Batteries can wear down over time regardless of whether they're actually used, Donato says. Short power disruptions can accelerate that wear, even if the disruptions aren't noticed in the facility because the batteries are working as expected. Further, one bad cell in a battery string could jeopardize a data center by compromising the entire backup system.

Even when UPSes manage to properly respond to power failures, they might simply be switching the data center's power to a near-depleted set of batteries. Rich Feldhaus, product manager at Tripp Lite (www.tripplite.com), notes that battery systems that remain in use all the way until the end of their usable service life—or beyond that point—can reduce UPS efficiency and increase BTU (British thermal unit) output because the battery charger must run almost continuously with more current than usual to attempt to recharge batteries that are past their prime.

Be Proactive

For some data centers, battery maintenance consists of little more than

Batteries and wiring in many larger three-phase UPSes allow for individual testing and inspection, but Feldhaus warns that due to the risk of severe injury or death, staff members tasked to perform battery maintenance for these products must be trained and certified as electronics technicians and fully versed in the use of eye, hand, and body protection required for data center environments and the use of nonconductive rubber matting, insulated tools, and other safety equipment.

"Customers typically will schedule a full internal review and testing of each battery pack at least annually, and sometimes as often as four times a year to ensure proper operation," Feldhaus says. "These battery checks will typically consist of a visual inspection of all connections for corrosion, checking the torque of each bolt-on battery connection, and an individual professional load test for each individual battery in the string. Some individual internal batteries may need to be temporarily removed for fluid checks and replacement as the service life nears the end."

Proactive monitoring also can help data center personnel gauge the condition of batteries. Donato suggests using a predictive battery monitoring system, which acts similarly to an ultrasound in that it delivers a "look inside" the battery and assesses its state of health. Such systems can supply knowledge about all critical battery parameters, including cell voltage, overall string voltage, current, and temperature.

Watch The Temperature

Battery life not only is affected by workload, but also by the ambient operating temperature. Falcon's Stout notes that maximum battery life (three to five years) can be attained when batteries are kept in a 25 degrees Celsius (77 degrees Fahrenheit) environment. By comparison, if batteries are used in a 55 C (131 F) environment, their life will be shortened to one year or less, and if they're used in sustained temperatures below -10 C (14 F), batteries can lose their ability to properly accept a charge.

Data centers can opt to employ a third-party battery service, which generally offers a mix of battery maintenance, monitoring, replacement, and disposal. Such services can be advantageous for the maintenance and replacement of hot-swappable batteries, which require the disconnection and reconnection of wiring to the battery terminals. Stout warns that if new batteries are connected improperly or the wiring terminals are allowed to short, the UPS will shut down and turn off power to the connected equipment.

Key Points

- Regardless of how much they're actually used, batteries degrade over time, driving home the need for regular monitoring and maintenance to prevent downtime.
- Installation of new batteries should follow a precise pattern to ensure they're ready for use when connected to equipment and also to indicate their initial baseline capacity.
- Maintenance of batteries in larger, three-phase equipment should be conducted only by personnel specifically trained to handle advanced DC products.

What Can Happen To Batteries?

According to Eaton's Power Quality Division (800/386-1911; www.eaton.com/upsservices), batteries have a slow degradation of capacity until they reach 80% of their initial rating. At that point, degradation advances in a hurry. Here's a look at what can go wrong with batteries.

Condition	Cause
Plate separation	Repeated cycling (charging and discharging), damage during handling and shipping, and overcharging
Grid corrosion	Normal aging, operating in an acidic environment, and high temperatures
Internal short circuit	Heat (plates expand, causing shorts), separator failure, handling and shipping, and grid corrosion
External short circuit	Human error (shorting terminals) and leaks
Sulfation of plates	Sitting discharged for an extended period, not on charge, or being undercharged
Excessive gassing	Often due to high temperatures or overcharging
Drying out	Excessive gassing, high temperatures, or overcharging



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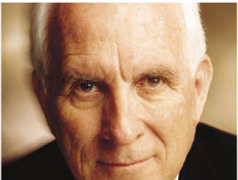
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Privacy Rights Group Proposes Ad Limits

In an effort to propel Congress to create legislation that would safeguard users' privacy online against behavioral-targeted ads, a group of 10 consumer and privacy rights organizations released a legislative primer early last month containing its recommendations and guidelines.

Congress is expected to draft a bill this fall that would outline tougher regulations on how advertisers such as Google, which launched its own "interest-based advertising" for beta testing in March, can gather and use personal data for behavioral advertising that targets specific ads at users based on their Web activity. In recent months, a coalition of advertising groups announced its own self-regulation principles regarding behavioral-targeted ads; however, members of the privacy rights coalition have expressed doubts that such self-regulation can work.

"Congress must take action now because self-regulation has failed," says Melissa Ngo, a privacy rights attorney and blogger on civil rights at coalition member PrivacyLives.com. "The industry has had years to self-regulate, yet often consumers have no idea that their data is being collected, compiled, and sold. They are being tracked surreptitiously and do not have real control over their own online data, which can reveal a person's health, finances, sexual orientation, and more. Congress must enact legislation to strongly protect the privacy rights of consumers."

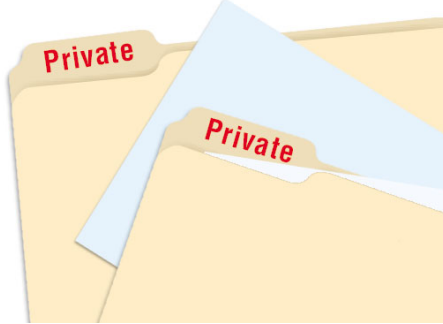
Privacy Goals

The coalition's recommendations include several tenets. For example, it believes sensitive information shouldn't be gathered or used for behavioral tracking or targeting and that behavioral data shouldn't be gathered or used for those under 18 to the extent that age can be inferred. It also holds that Web sites and ad networks shouldn't collect or use behavioral data exceeding 24 hours without an individual's affirmative consent. Finally, it says that behavioral data shouldn't be used to unfairly discriminate against users or in a manner that influences a user's credit, education, employment, insurance, or access to government benefits.

Lee Tien, an attorney for the Electronic Frontier Foundation, another coalition member, says that although the EFF is leery of government regulation of the Internet and wants to give the market, including tech developers, a chance to develop tools that users can deploy to protect themselves, as well as to adopt practices that protect users, the EFF believes there's a serious market failure when it comes to the tracking of Internet users. One reason, Tien says, is that it's difficult for users to know of tracking and even harder for them to know what's being done with the data.

"As I like to say, if you buy a new car and it breaks down a block from the lot, you know it, and you know who to blame: the car dealer," Tien says. "But if your car dealer breaks a privacy promise and shares your data, you probably won't know it."

by Blaine Flamig



Tracking Green IT

So You've Gone Green. Now What?

by Holly Dolezalek

IT'S A CLICHÉ, but we're all stuck with it: If you can't measure it, you can't manage it. And although some companies are settling for simply starting green initiatives and hoping for the best, the really business-minded ones are tracking the progress of those initiatives to measure their effectiveness.

Key Points

- Green initiatives have to align with business goals, or they'll be discontinued or actively harm the business.
- Replacing older equipment for more energy-efficient equipment is sometimes, but not always, a good idea.
- Start with a baseline and clear goals so that you know not only where you started, but where you're going and how close you are to getting there.

If it sounds superfluous, consider the green strategy of replacing older equipment with new, more energy-efficient equipment. Data centers have bought new, more energy-efficient servers or routers assuming that they've just saved some money and a bit of the environment. But if they've made a capital expenditure that outstrips the money saved on electricity during its lifetime, they're right where they started. Not only that, they may have also done more harm than good from a resource standpoint.

"Eighty percent of the power that a device uses is actually consumed during its manufacture," explains Bob Houghton, president and CEO of Redemtech, an IT and asset disposition company (www.redemtech.com). "Energy-efficient computing devices are great, but if you retire a perfectly good piece of equipment prematurely, your net consumption of power will actually go up."

Get A Baseline

Companies differ in their approaches to becoming more green. Some target ghost servers—those servers that are being used minimally or not at all yet are still plugged in and drawing power. Others pursue virtualization to get more capacity out of fewer physical servers. Still others experiment with higher data center temperatures that maintain equipment life yet consume less cooling. Whatever your company's green IT initiatives, measuring the progress of those initiatives and demonstrating their worth is vastly easier when you start with a baseline.

"Once you have a baseline, then you can set rational business goals for sustainability, and you can put measurements in place to manage progress toward those goals," Houghton says. "It's really no different from the way companies measure other goals: Where are you, where do you want to go, and what metrics will show how you're doing?"

That baseline can function as a road map to know what to tackle first. "Any green initiative comes down to fundamentals: Am I getting the most processing or computational efficiency from what I'm using to do the task?" says Barry Thompson, CEO of Tervela, a messaging infrastructure company in New York and Boston (www.tervela.com).

"So what you're doing and what you're using to do it forms the metric. For example, if you know your rate of transactions per second per watt of electricity, or of network packets per second per watt, you can radically reduce your utilization and identify areas where you're woefully inefficient."

Monitoring Consumption

Pete Beckman, director of the Argonne Leadership Computing Facility (www.anl.gov), says that by using temperature and power monitors on its platforms, Argonne has done studies showing which computing jobs require more power. It found there are certain supercomputer applications that use their operations extensively and have considerably more power draw. "We now schedule some of these jobs, which run the chips hotter, in the evening when we can get cheaper power and the ambient temperature is lower," Beckman says.

The Argonne experiment shows that by using data from utility bills, facility management systems, and other sources, you can calculate how much of each resource you're using and where it's going. For example, Joe Perillo works with facility management at MetLife to get granular data on the workings of MetLife's two data centers. The primary data center is in Albany, N.Y., while the backup is in Scranton, Pa.; both are about 60,000 square feet.

There are power monitoring systems installed at both data centers that monitor overall usage, and an electrician-read daily UPS output at additional points, which supplements the power monitoring system. Together these systems enable MetLife's Corporate Real Estate department to provide Perillo with data on demand and usage, along with a monthly cost analysis. These reports are broken down between facilities infrastructure (such as HVAC), IT infrastructure (servers and other equipment), and administration areas. Based on these reports, Perillo's group and Corporate Real Estate can measure the effectiveness of virtualization, HVAC changes and upgrades, layout design, and other factors.

MetLife had set a goal to decrease its carbon emissions by 10% by next year. It has already cut them by 20%. "Basically, we've not only succeeded in getting more capacity—nearly three times as much—with the same footprint, we've been able to bring our usage down with virtualization," Perillo says.

Replacing Equipment

If your big green initiative is to replace older equipment with gear that takes less electricity to run and cool, then your baseline will have to include the equipment you have. "IT can't be sustainable, because the hardware is not made from renewable resources," Houghton says. "We promote the virtues of lengthening life cycles judiciously."

That means reusing equipment in another area when it's no longer useful in its current area. Make sure your asset repository is up-to-date and accurate so surplus inventory can be identified and repurposed or disposed of.

"At a large bank we serve, we worked to develop a strategic equipment matrix that identified equipment that was still qualified

for use in the enterprise, the company's inventory threshold, and a service path so they know what they want us to do with each piece of equipment, whether that's refurbishing, testing and reimaging, or disposal," Houghton says. That way, the bank not only knows what it has, it also knows how old each piece of equipment is, how much longer it can be useful, and when it should be reused or let go. Houghton says the company deferred more than \$7 million in procurement by reusing product, and the investment yielded a 14.5:1 return.

Tervela's Thompson suggests taking many variables into account when considering how much longer to use a piece of equipment, including the price of electricity, the gear's need for HVAC, and the capital expense of replacing the equipment. "If you're looking at a significant decrease—maybe 50%—in one of those sunk costs, replacement is worth considering," he says. "If it's less than that, it makes more sense to follow a normal equipment refresh cycle."

Measuring the success of green initiatives also helps by keeping green initiatives from conflicting with business goals. Thompson gives the example of a hypothetical company with an algorithmic trading operation on Wall Street. "You could put all your computers in power management mode so that they consume less electricity," he says. "But then your latency would increase and your company would lose money on trades. Green initiatives have to be meaningful, and they also have to allow you to meet or exceed the service-level agreement. Nothing can be monitored in isolation." ■

To PUE Or Not To PUE?

The PUE (power usage effectiveness) rating is one metric for assessing a data center's greenness. It's expressed as a ratio, and it divides the amount of power that comes into a data center by the power used to run computer infrastructure. The measure comes from the Green Grid, a consortium of IT companies and individuals that seeks to improve energy efficiency in data centers.

But remember not to stop with determining the PUE. "What [the PUE] does is measure how well you're balancing your facility's supply to its IT demand," says Steve Yellen, vice president of marketing for Aperture (www.aperture.com), a division of Emerson Network Power. "If you have a facility running at a certain PUE and then virtualize some of your IT load, that's a good thing. But it may actually reflect negatively in your PUE, because now the facility supply may be overloaded for the IT demand."

Yellen suggests that measures of how much IT work is completed per watt of electricity consumed may be a better way to determine how well a particular green initiative is working. But he also warns that the way to calculate that is not yet clear, and he suggests that for some companies, it might be better to just pick a metric that fits the business and wait for more clear guidance from the EPA or Green Grid. "As long as you know what your measurement is, you can still track your improvement over time," he says.

FEATURED COMPANY

High-Quality Equipment & Service

CablesAndKits.com Works Hard To Meet Its Customers' Networking Equipment Needs

by Robyn Weisman
• • •
BUFORD, GA.,-BASED CablesAndKits.com is a one-stop shop for network hardware and accessories from Cisco and others. For example, if you need replacement patch cables in a peculiar size, a unique color, shielded or nonshielded, booted or non-booted, CablesAndKits.com will have it—and a wealth of other items that make setting up or maintaining your network a breeze.
“We are constantly expanding our offerings. Customers see the variety we have in our store, and the next time somebody asks them where to get a cable, they’re probably going to mention us because, ‘Good lord, these people have everything!’” says CablesAndKits.com CEO Craig Haynie (www.cablesandkits.com).

This dedication to selection and quality has made CablesAndKits.com one of the largest e-commerce-enabled Cisco resellers in the country. “We are radically different from anyone in this space,” Haynie says. “There are a lot of shoppers, when they are looking for hardware, [who] would prefer to sit there, type it in, find it, view it, click it, buy it, and move on with their lives. They know what they need.”
Although CablesAndKits.com is more than happy to chat with customers on the phone to help them with their Cisco and network needs, it isn’t a requirement, Haynie says. This ease of use and reliability may be why the company has grown so fast since it got its start in 2001.

Top Cisco Accessories Dealer

Haynie explains that after the dot-com crash in 2001, a plethora of failed companies were liquidating their assets, and at the same time, technology companies that did survive were facing severe budget cutbacks. Seeing an opportunity, Haynie founded what would eventually become CablesAndKits.com and began buying up this preowned equipment and offering it as a cost-effective alternative to buying new.
Soon, CablesAndKits.com became a premier dealer of Cisco equipment and accessories, offering more accessories for current and legacy Cisco products than any other company, including Cisco itself, says Haynie. And after establishing its reputation as a go-to place for Cisco products, CablesAndKits.com started offering general network accessories such as the aforementioned cable selection, racks, power supplies, and shelving.
Moreover, CablesAndKits.com responded to its customers’ needs and began developing its own solutions for the data center. The company now offers several custom rack-mounting solutions for otherwise nonrackmountable hardware such as

the Cisco PIX-506 and 506E, Cisco PIX-501, Cisco ASA5505, and a forward-mount version of the Cisco 1841 rack-mount kit, among other solutions.
“We have also developed a universal hanging wall-mount solution that allows you to mount any 1U device using the original rackmount kit and are excited

shipping label and paperwork to the warehouse before the products are even put into the box,” says Haynie. “They have the shipping label before they even go get the stuff off the shelf. They put it all into a box, and it weighs what the label says it weighs.”
And CablesAndKits.com stands behind its guarantee of same-day shipping if an order is placed before 5 p.m. Eastern Time. “If you place it at 4:59 p.m., it gets shipped. Not even Amazon can promise you that,” Haynie says.

360-Degree Solution

Although CablesAndKits.com makes it easy for customers to order and move on with their day, the company also strives to build individual relationships with each of its customers to help them reach their goals in the most time- and cost-effective way possible, Haynie says.
“You can give one of our sales reps a call for assistance with your needs. One of

“There is usually not much that we are not able to locate for our customers.”
- CablesAndKits.com CEO Craig Haynie

the things that sets us apart is our desire and ability to provide a 360-degree solution to our customers,” Haynie says. “If we do not have the products you need in stock, we will source them for you. There

CablesAndKits.com
(888) 622-0223
www.cablesandkits.com

CablesAndKits.com specializes in high-quality preowned equipment for networking systems from Cisco and other manufacturers.

The company prides itself on excellent customer service and quality assurance. “If we do not have the products you need in stock, we will source them for you. There is usually not much that we are not able to locate for our customers,” says Craig Haynie, CEO of CablesAndKits.com.



is usually not much that we are not able to locate for our customers.”

Dedicated To Quality

CablesAndKits.com is dedicated to providing quality Cisco and networking products. “We currently refurbish all the hardware we sell and stand behind our products with an industry-leading one-year warranty, four times that of a typical warranty for new Cisco products,” says Haynie. The company’s refurbishing process goes above and beyond what anyone else in its industry does, Haynie says. CablesAndKits.com goes into great detail to clean, test, and repackage preowned equipment so that it arrives looking as close to its original condition as possible.
For example, Haynie will not send something that falls outside of his range of what he considers to be acceptable in a refurbished product. He is not OK sending out equipment of varying quality when plenty of equipment is available without major flaws. “I’d rather it be of consistent quality, and if it falls outside a certain range, then it goes into the clearance section where people know what they are getting and any issues are noted in the description,” he says.
“I get nuts with it sometimes and reject things that other people would never reject as far as quality issues,” Haynie explains. “You want to be able to be consistent, and in order to be consistent, you have to set some threshold. It’s something we stand alone on.” ■

Featured Products From CablesAndKits.com

Product	Description
Cisco ASA5505 19-inch Rackmount Kit	A custom-developed rackmount solution for the Cisco ASA5505 firewall that will fit it in the center of a 1.25U space. It also includes room to hold the ASA5505's power supply.
Cisco 7900 Series IP Phone Power Supply	A low-cost replacement power supply for most Cisco CP-79XX series IP phones.
Cisco DB9 to RJ-45 Console Cable, 6-foot	A one-piece cable designed to replace the rollover cable and adapter used to connect a computer's serial port to the RJ-45 console port on most Cisco equipment. Can be used with non-Cisco equipment designed to use a similar setup.
Cisco 1841 Integrated Router, Model 1841 - 256D/64F Memory	A preowned Cisco integrated services router that provides support for up to 800 VPN tunnels; concurrent services at T1 and E1 WAN rates; and support for most existing WICs, VWICs, and VICs (data mode only). Comes with DB9 to RJ-45 Console Cable and AC cord.
Cisco Catalyst 3550 Series 48 Port Switch, WS-C3550-48-SMI	A stackable, multilayer switch that supplies networks with high availability and security capabilities. Able to handle a wide range of Fast Ethernet and Gigabit Ethernet configurations.



To Chargeback Or Not?

Managers Demand Transparency To Scrutinize IT Budgets

by Kurt Marko

PAY FOR WHAT YOU USE. It seems a simple enough concept, except that for years, most IT shops have been run like an all-you-can-eat buffet. The problem stems from IT’s funding model—typically crude but easily implemented allocation methods that more closely resemble a tax on business units than fees for service—which the past year’s economy and IT belt tightening have exposed as wasteful and inefficient.

“Past crude allocation mechanisms provided no real insight into IT costs and led to the perception that the cost of IT always seemed to exceed its value,” says Craig Symons, vice president and principal analyst at Forrester Research, in a recent report. These factors have led business executives to demand greater IT cost transparency. Financial experts agree that IT chargeback, or the practice of selling IT services using consumption-based rates, is

Chargeback Benefits

According to Steve and Bronagh Sorota, founders of VAlign Software (www.valignsoftware.com), IT chargeback addresses two key issues: illustrating IT’s business value and facilitating demand management. Chargeback allows lines of business to see what they’re paying for, says Bronagh Sorota. “IT is no longer this big black hole.”

Symons explains the problems with lump-sum charges: “A single, large line-item expense on a business unit profit and loss statement provides no information about what exactly that cost includes and makes it impossible for business executives to connect their IT costs to any business outcome or measure of value.”

Chargeback also provides accountability for IT consumption, says Steve Sorota, so users are incented to request only what they need and not what they’d like. “Without chargeback, there’s no reason to be

Key Points

- Chargeback is a system for fairly allocating IT costs to internal businesses based on their use of defined IT services at rates based on levels of consumption.
- Although chargeback billing is often mandated by executive management, it’s likely to meet resistance.
- Using crude allocation measures such as revenue or number of employees and calling it chargeback is guaranteed to raise the ire of business managers; chargeback requires a service catalog. Although an ideal, 100% of IT’s budget need not be recovered via chargeback.

on business unit revenue or headcount. According to Symons, “The problem with these allocation methods is that they don’t necessarily correlate with actual IT use, which leaves ‘light’ IT business units subsidizing ‘heavy’ IT business units.”

IT chargebacks also can improve alignment of scarce IT resources with enterprise needs. According to Symons, usage-based billing provides visibility of most important services, which can ensure IT operational budgets and new investments are spent on the right activities.

Rob Mischianti, vice president of product management at Nicus Software (www.nicus.com), says one of the major changes he’s seen recently is the use of chargeback as a decision support, budgeting, and forecasting tool.

Pitfalls & Likely Pushback

So if chargeback accounting has such clear benefits, why aren’t more companies using it? According to a recent Forrester survey, half of IT shops don’t use chargeback, and Symons believes these organizations either don’t see the benefit or don’t know where to start.

Chargeback isn’t without its detractors. “Charging back for IT services has been a controversial practice for many years,” Symons says, “so much so that a significant number of organizations have either never implemented IT chargeback or have stopped the practice.”

The doubters are generally business managers at companies where chargeback has

been poorly implemented. Some IT organizations, in seeking a quick and easy way to initiate chargebacks, bypass the necessary but laborious step of creating a service catalog, with a resulting billing scheme that’s just another form of cost allocation. Symons notes this naturally leads to complaints—the systems aren’t fair, don’t provide details into services rendered, or offer no way of controlling a business unit’s IT costs—that unfairly tarnish the entire concept.

Steve Sorota says resistance to chargebacks also comes if chargebacks become too complex for the buyer, which can occur if usage metrics and billing rates are too granular or misunderstood. “The end user feels like they’re being taken for a ride,” he adds. Mischianti says another obstacle to chargeback is the expense, which runs about 1% of the total IT budget.

Resistance doesn’t always come from users; because chargebacks are often mandated by upper management, IT is often guilty of foot dragging. Chargeback necessitates rethinking IT’s deliverables, shifting from infrastructure and asset management to focusing on services and applications, which Symons notes presents a natural inertial challenge. “Chargeback can’t be done without organizational change,” he adds.

Starting Points

The benefits of chargeback billing require some up-front work, starting with an IT service catalog. Symons advises using the detailed templates from the ITIL for service strategy, design, and financial management (see www.itlibrary.org/index.php?page=ITIL). With a catalog in place, the Sorotas say the next steps entail mapping various infrastructure assets and support personnel to each service and tying service usage to organizational consumers (either individuals or business units). While cautioning against adding unnecessary complexity, they also note another challenge is setting the right rates. “If you guess wrong, you won’t recover all your costs,” says Bronagh Sorota.

Applications that are broadly shared, such as ERP systems, can prove troublesome to chargeback implementations, so it’s probably easier to continue allocating their costs, according to Symons. Likewise, the Sorotas note that highly virtualized environments are difficult to chargeback without specialized financial tracking software.

According to Symons, “There can be no more ‘free lunch’ for IT customers, but at the same time, IT can no longer allocate IT costs as a lump sum.” IT chargeback is a proven means of demonstrating IT’s business value, facilitating demand management, and regulating consumption. ■

Recommendations For Getting Started

Here are Forrester’s recommendations for organizations considering a chargeback plan.

- **Implement a service catalog.** The most effective chargeback results from products and services that are well understood by the business users. Work closely with business users to identify and define the business services that they require.
- **Work with finance.** Work closely with the finance and accounting department to develop cost models for each product and service. ITIL version 3 provides some excellent guidance for service costing.
- **Assign relationship managers.** The biggest immediate benefit of implementing IT chargeback is enabling the enterprise to better plan and forecast its IT costs. Relationship managers can work closely with the enterprise to help it understand and plan its IT demand.
- **Make it real.** After a trial period of six months to a year, link business units’ IT costs to their budgets and P&L statements. Information-only chargeback is an improvement over none, but it doesn’t really provide the accountability and incentive to change the behavior that leads to improved demand management and governance.

SOURCE: “IT CHARGEBACK ADOPTION: THE HAVES AND HAVE-NOTS”; FORRESTER RESEARCH REPORT BY CRAIG SYMONS WITH SHARYN LEAVER AND TIM DEGENNARO; JULY 29, 2009.

the most effective means of clearly exposing IT’s costs.

According to Symons, “The single biggest disconnect between IT and its customers is that the typical IT organization manages technology assets (e.g., servers, storage, and networks), while IT customers consume services (e.g., email, document management, and statement processing).”

efficient,” he adds. A lack of financial feedback leads to overusage and waste and, Symons says, makes it impossible for business units to manage IT spending. “Each month the charge appears, and the business executive has no control over it,” he adds.

An indirect benefit of chargeback funding is that it addresses the perceived unfairness of IT allocation systems that apportion IT costs using a rough formula based



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Data Center Virtualization

Setting The Record Straight

by William Van Winkle

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IN EARLY 2008, Gartner reported that “virtualization will be the highest-impact trend changing infrastructure and operations through 2012.” The current year certainly shows that Gartner was spot on. If anything, the mass of virtualization news and innovation arriving every week seems mountainous—more than many data center managers have the time or inclination to handle. Nevertheless, virtualization is too important to ignore, so for those who don’t have the hours to keep abreast at the ground level, we have a bird’s-eye view of today’s virtualization situation.

Shifting Status Quo

Whether the impetus comes from industry mandates for greener computing, tightening constraints in floor space or energy capacity, or simply the need to remain competitive in one’s field, the widespread adoption of virtualization shows no sign of slackening. Server virtualization is increasingly critical for competitive data centers: IDC predicts the ratio of virtual to physical servers shipped will be 3:2 by 2013.

These numbers refer to VM shipments arriving preinstalled on server systems, but, of course, many virtualization deployments are meant to reduce and consolidate existing hardware, not add new equipment. Adding servers while reducing hardware represents a new paradigm that some IT buyers continue to grapple with.

Key Points

- More virtual servers are shipping now than physical servers, but not all companies have embraced the virtual paradigm.
- “Free” virtualization solutions may serve to entice, but the true costs of virtualization platforms are rising as they grow ever richer in features and capabilities.
- With more virtualization platforms gaining in popularity and accelerating the rate of virtual server sprawl, paying attention to management tools is critical.

Long-time incumbent VMware increasingly finds itself defending against claims of market share erosion, particularly to Microsoft. IDC released a highly contested report stating that Microsoft had claimed 23% of the second quarter x86 virtualization software market against VMware’s 44%—numbers that tell a much different story than the revenue realized on those shipments: 1.1% for Microsoft vs. 78% for VMware.

Fee vs. Free

These counterintuitive revenue numbers spotlight the “giveaway” model several virtualization vendors are adopting, including Microsoft, Citrix, Sun, and even VMware. Hyper-V may come bundled into Windows 7 and Windows Server 2008, but whether that’s free or not depends on one’s viewpoint. Moreover, expect “free” server

the actual cost to implement virtualization is rising across the industry. This results from successive generations of a virtualization platform continuing to add features and value to the software stack. As the value increases, vendors raise total implementation prices accordingly. The hypervisor price may decline, but the number and price of complimentary products on the hypervisor’s platform increases.

Licensing

Licensing in the virtualization world is a chaotic jumble still in search of one or two primary models that will accommodate future product generations. Until then, vendors offer a mishmash of licensing options. In the past, many platforms licensed on a per-processor basis, but multicore CPUs are quickly putting an end to this method. In its place, some vendors opt for a per-core model, but this is also problematic. Before long, customers may start to object to being charged eight or 16 times for a single processor deployment. And how should virtual processors be tallied? Licensing on a per-physical-server basis is another option, but when virtual machines can be shuffled around to various hardware boxes simply at the whim of load balancing routines, this model makes increasingly little sense.

Unlike with the difficulties of tying licenses to physical assets, licensing the number of virtual machines seems to be increasingly popular. Some vendors are taking the extra step of only charging for virtual machines in active use, not those that have been stored or otherwise put on a back burner. Similarly, in the virtualized desktop space, some vendors prefer to license based on the number of “seats,” or virtual desktops. According to Parallels’ Abramowski, “That makes it really easy for a customer to compute the lifetime value.”

Hypervisor Or OS-Level?

Virtualization is different, depending on the company manufacturer. Some offer operating system-level virtualization, which can provide multiple user-space instances,

“When you’re running virtual desktop infrastructure,” says Abramowski, “you want to put the most desktops you can on a single server. With a hypervisor for that business problem, you’re going to quickly run out of disk space and memory because you’re duplicating the environment every time you add a new desktop. With containers, because you’re using one OS footprint, you’re incremental. Every time you add a new desktop, it’s tiny. You can basically host hundreds of desktops per server whereas a hypervisor might only let you have tens, like 40 max.”

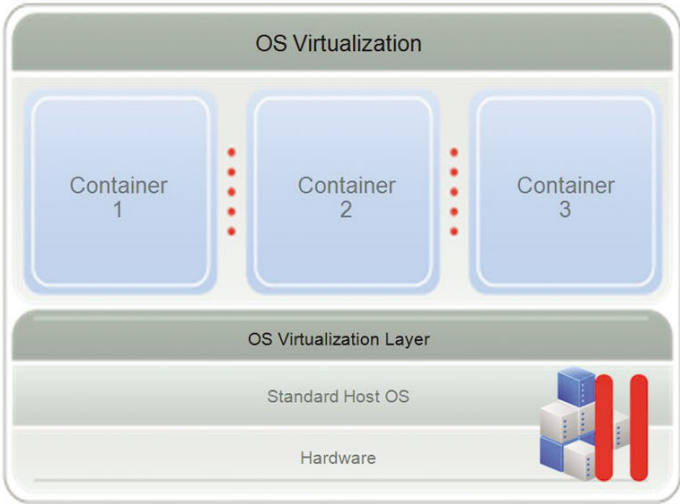
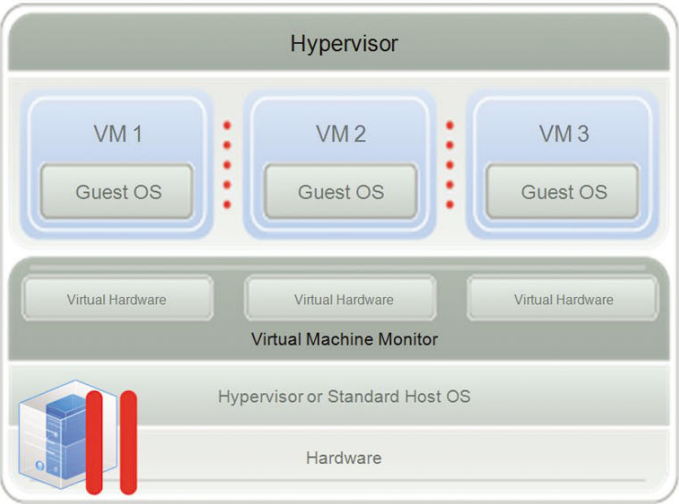
OS-level virtualization isn’t appropriate in many cases, such as when the OS kernel needs to be manipulated or when applications need dedicated access to device drivers. Still, this model is gaining visibility among enterprises needing quick provisioning of many similar virtual servers or virtual desktops on the least possible hardware.

Trouble Spots

Often, the first steps in a major change prove to be the ones where most organizations stumble. With all of virtualization’s hype and sensational ROI promises (many of which are computed by oversimplified third-party calculators), it’s no wonder that many enterprises want to deploy as soon and as broadly as possible. But there are plenty of cautions that need to be observed.

“Where we typically see missteps is when customers don’t do the due diligence and find out what’s out there in their environment,” says Microsoft’s O’Rourke. “They won’t know that some of their employees are running applications that aren’t standard for the business, and these can tend to interfere with a centralized deployment. Customers can also run into storage issues where they don’t have the right networking to virtualize and consolidate. It tends to be items at the end point (the end user) or the back-end networking storage requirements that get overlooked.”

Abramowski notes that many organizations will install a virtualization pilot to address a specific problem but then fail to anticipate that problem’s capacity demands,



While the hypervisor model of virtualization gets the most market and media attention, OS-based virtualization can also be a viable option for situations in which many low- to moderate-demand virtualized applications, desktops, or servers must be fit within the smallest possible number of physical servers. Both models are appropriate for different circumstances.

“People are looking at their IT environment knowing they have to consolidate, but there are still a lot of hang-ups,” says Patrick O’Rourke, group product manager in the server and tools business at Microsoft (www.microsoft.com). “People are used to a truck pulling up to the front door and pulling off a server. That’s not done anymore. It’s literally ‘I’m going to drag this piece of software to this hardware’ and boom—there you go. You got a new computer. From a process point of view, people get hung up there because they have this tactile issue with their hardware.”

Old-school habits or not, adoption is rampant, and the virtualization market is engaged in a free-for-all land grab.

virtualization tools to lack some of the functionality found in fee-based solutions.

“You can use a single copy for free in your data center, but as soon as you want to manage it or have the more business-quality features, then they start charging you for every individual server at the management level,” says David Abramowski, director of product marketing for enterprise solutions at Parallels (www.parallels.com). “When you’re looking at different virtualization technologies, make sure you’re aware of the full cost of getting something in-house that can solve the problem—not just to get it in but also to manage it on an ongoing basis.”

Abramowski states that despite the increasing proliferation of “free” options,

often called containers. A container is similar in concept to a virtual machine insofar as both can run like conventional servers. However, VMs require a hypervisor that interacts directly with underlying hardware while containers sit on top of the operating system. The hypervisor model has attracted nearly all of the industry’s attention, but the container model may soon gain traction in scenarios where virtualized systems or applications have a low-resource footprint and owners are seeking to maximize density in a unified OS environment. (For instance, if the organization runs containers on Linux, it might employ containers with different Linux distributions but not with, say, Windows.)

particularly for support. “Companies that are successful with virtualization figure out a way to do self-service. They push the service of their virtualized environment out to the recipient audience so, for example, there isn’t trouble ticket after trouble ticket to do things like reset passwords.”

Part of solving this self-service problem lies in having the right management tools. As more hypervisor platform competition creeps into the market, all of which can accelerate the rate of “server sprawl,” the demand for agnostic management tools is rising. IT groups need to be cognizant of how their virtualized asset management will be handled in the future before committing to a given deployment path.



Cabling: Structured vs. Point-To-Point

What You Need To Know To Pick What’s Right For Your Data Center

by Elizabeth Millard

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WHEN IT COMES TO data center cabling, there are two primary options: structured and point-to-point. Many data centers have the latter system in place, but cabling experts are increasingly touting the advantages of a structured setup, noting that such a strategy prevents cable length limitations and potential downtime.

Getting To The Point

One of the main benefits of point-to-point setups is that they’re likely already in place in a data center, which means that if a system is working, an IT manager could avoid the rip-and-replace tactics needed to switch to a structured cabling strategy.

What’s most important is accommodating growth over the life of the network, notes Peter Hail, a representative of Warehouse Cables (www.warehousecables.com), a provider of datacom and telecom cables and assemblies.

In any data center, he says, cabling should always be installed with a sense of a long-term plan. Otherwise, there’s a danger of putting in more and more point-to-point cable and having a problem later, particularly if there’s no cable abatement (removal of abandoned cable).

Finding Structure

Although point-to-point might be common in data centers, some experts advocate a switch to structured cabling systems, which have proven to be more

“It may seem to be more cost-effective to install point-to-point cabling at the beginning overall,” says JR Rodrigues, president of NetCablesPlus (www.netcablesplus.com), an online cable store. “But, it generally has turned out to be a more costly way of going about things, as the data center grows and requires changes in configuration and equipment because those changes will not be planned for nor easily supported by the existing network.”

He adds that as data centers grow and configurations change, it can be difficult to figure out which point-to-point connections are still required, especially as staff changes occur and “institutional memory” declines.

For example, if some cables are labeled in a certain way, such as Server Row 1, and that row gets moved, often the labels are not changed to reflect that reconfiguration because staff members can recall cable assignments. But when new employees come in and find that there’s no Server Row 1, that institutional memory is lost, and time is wasted in trying to trace cables to the equipment.

“A lack of naming conventions for labeling the cables in point-to-point networks makes the situation even worse,” notes Rodrigues. “And, even if the cables were properly labeled at both ends, incremental changes to the data center’s configuration over time may make those labels meaningless.”

He adds that, in his experience, point-to-point cabled networks use ports less

will also increase the overall cost of maintenance for the data center. Both networking and cooling equipment will need to be repaired and/or replaced more frequently.”

Key Points

- Point-to-point cabling systems can be advantageous if they’re already in place, but care must be taken to do regular cable abatement and to avoid overloading channels.
- Structured cabling can be more cost-effective and reliable in the long run and can prevent the type of hassles seen in systems that are improperly labeled.
- No matter which system is employed, always plan for growth, and when doing a study of the issue, mix together both facilities and networking costs, particularly related to power, cooling, and maintenance.

Finally, he notes, there’s a “green” factor associated with the use of structured cabling, because in a structured network that uses high-performance copper and fiber cabling, new generations of equipment can utilize the same channels, which means less cable recycling is required. More complete utilization of ports also reduces the number of switches and power supplies necessary to run the data center.

Creating Cohesion

There are some instances where point-to-point top-of-rack or end-of-row connections will make sense for a data center, but Higbie advises that an IT manager should undertake an overall study of the issue, which should include equipment cost, port utilization, port oversubscription, maintenance, and power cost over time. Both facilities and networking expenses should be folded in to get the best overall decision, she believes.

Because the cable plant is passive and requires no reoccurring maintenance costs, a few extra cables to allow any-to-all (see the “Any-To-All Structured Cabling System” sidebar) are far less expensive than purchasing switch ports in excess of what you need, she says. Additional switch ports that can’t be used due to power constraints to a cabinet, lack of equipment to utilize them all, and so on not only cost from a purchase perspective but are ongoing, as there are costs to power them and maintenance costs year after year. ■

In any data center, cabling should be installed with a sense of a long-term plan. Otherwise, there’s a danger of putting in more and more point-to-point cable and having a problem later.

Server Sales Fall

According to both IDC and Gartner, server sales have declined in the second quarter. However, both analyst firms forecast rising sales and report signs of stabilization in the server industry. IDC says server shipments fell by 30.4% year-over-year and worldwide revenue declined about 30.1%. The \$9.8 billion in revenue is the lowest since IDC began tracking it in 1996. Gartner says worldwide server shipments fell an estimated 28%. According to Gartner, IBM saw a 27.1% decline in server sales compared to a year ago. HP and Dell came in second and third, respectively, in terms of server sales.

Cisco CEO, Other Execs Get Bonuses

Despite missing performance goals, Cisco CEO John Chambers received a \$2 million bonus. Other top executives received bonuses of lesser amounts, between \$750,000 and \$1 million. The bonuses are typically distributed as a reward for performance, but the company gave the discretionary bonuses out because it felt it had performed solidly despite the difficult economic circumstances. Cisco’s sales figures are down 9% from last year. According to Cisco, the amounts given were all less than what was distributed last year, when top executives met performance goals.



Microsoft Word Ban Lifted For Now

The U.S. Court of Appeals in Washington, D.C., has ruled that, for now, Microsoft may continue to sell Word, its word processing program, until Microsoft can present its appeal to an appellate court as part of an ongoing patent infringement case brought against it by Toronto-based i4i. The court’s ruling stays a decision made by Judge Leonard Davis of the U.S. District Court for Eastern Texas that would ban sales of Word in its current iteration beginning in mid-October. The legal battle began in 2007, when i4i sued Microsoft for patent infringement, claiming the software giant’s word processing program infringes on patents i4i holds for using XML.

Microsoft Pushes For Patent Reform

Microsoft is calling for changes in the way patents are submitted and approved, including plans for what the company is calling global patent harmonization. “It is time for a world patent that is derived from a single patent application, examined and prosecuted by a single examining authority, and litigated before a single judicial body,” said Horacio Gutierrez, Microsoft corporate vice president and deputy general counsel, in a blog post. Gutierrez notes that more than 3.5 million patents are pending throughout the world, with more than 750,000 pending in the United States alone. That backlog causes some enterprises to wait up to five years before being issued a final patent. Gutierrez said a global patent system would solve many of the problems with the existing patent approval process.

Any-To-All Structured Cabling System

According to Siemon’s Carrie Higbie (www.siemon.com), the concept behind any-to-all is simple: Copper and fiber panels are installed in each cabinet and correspond to copper patch panels that are installed in a central patching area. All fiber runs to one section of cabinets and racks in that particular area, and this allows equipment to be connected through copper patch cords or fiber jumpers. This strategy might require more cabling up-front, Higbie notes, but it can be very beneficial over the life of the data center, because structured cabling systems last at least 10 years and support two to three generations of electronics.

advantageous for accommodating growth and capacity and reducing the need for cable abatement.

According to Carrie Higbie, global director of data center solutions and services at Siemon (www.siemon.com), there are two standards for structured cabling systems in data centers: TIA 942 and (draft) ISO 24764. Both standards are focused on structured systems accommodating growth, she notes, and were created to address the type of expense and reliability concerns seen with point-to-point channels that were being overfilled or moved as data centers expanded.

She states that overfilled pathways cause problems with airflow, and some cabling can even become deformed by sheer weight load, causing an adverse effect on transmission properties. If cable abatement hasn’t been regularly practiced, the situation can be even more dire, as newer, higher-performing systems are installed along the same pathways.

efficiently than structured network, causing the need to purchase more equipment than might otherwise be needed. Not only does this add to an equipment budget, but it also increases the overall power consumption of a data center, which leads to higher cooling costs, as well.

Rodrigues says, “This combination of generally need[ing] more equipment in a point-to-point configuration, along with the increased heat and power consumption required by a point-to-point cabling system,

OPINIONS

FROST & SULLIVAN

An Ounce Of Prevention In A Down Economy

Prevention is something that all of us know we should do, but for some reason, it seems to take a back seat to the day-to-day tasks. This pervasive problem has plagued humans through the ages. “An ounce of prevention is worth a pound of cure” was not written for security pros, but it sure could have been.

It always seems to take much more effort to check the backups once a week than it did to set up the backup routine. Ensuring that patches are in place should only take a few minutes—but for some reason, the CEO always seems to call with a problem when it’s time to check the logs. Preventive tasks are not always the most exciting, and many security pros may find the work below their pay grade.

In a bad economy, preventive tasks take a back seat for other reasons. Staffing is cut, the focus is on the bottom line, and the message to the security team (and IT in general) is “do more with less.” Despite the challenges, there are still plenty of reasons for staff to be doing even the most uninteresting tasks, and there are reasons for management to support preventive maintenance. But the message may take some work.

No Rest For The Weary

A tape that fails, a hurricane, or an attack is not going to wait for a good economy to happen. Organizations still face the same risks they did when times were good. In fact, many organizations may not realize that their risk has probably increased in the

current economic climate. Reduction in staff and an increased threat from the inside means that the organization may be at higher risk of attack. Add that to the loss of preventive maintenance, and the organization may be primed for disaster.

The hackers are not taking a break. If the recent Black Hat conference is any indication, attacks are continuing to become more pervasive, more complex, and more difficult to defend against.

A Penny Saved Is A Penny Earned

When times are good, it is easy to do prevention. Budgets are healthy, staffing is up, and IT managers have the flexibility to assign their staffs to preventative projects. When times are bad, however, IT managers suddenly have their hands tied in terms of preventive projects. Even though the economy, staffing, and the organization may seem preoccupied with the here and now, managers have to take the initiative to educate employees and to protect the preventive projects that can save the organization money.

Managers may be saying to themselves, “Sure, I want to do prevention, but my boss is breathing down my neck, and I just don’t have the staff to do preventive maintenance.” Although it’s true that preventive maintenance may appear to be a less critical activity, your mantra to your management should be, “This does save money.”

The financial advantages of prevention are numerous. Even though we mentioned

“a pound of cure” earlier, managers also should remember the phrase “a penny saved is a penny earned.” There are plenty of preventive security tasks that will make a difference in the security posture of an organization and require no spending. This should be an IT manager’s ace in the hole when trying to sell preventive maintenance to upper management.

Back To Basics

In many organizations, the small preventive measures that can prevent disaster don’t require any new equipment, just a new focus. Some of the most basic security practices can save an organization thousands or more in time and lost sales.

Make sure those patches are up-to-date. When was the last time you did a thorough search of the most recent patches? Not just major operating system patches, but key applications, as well. You never know when the next Conficker may hit, and you sure don’t have the time or energy to clean up an outbreak.

Check your backups. Have you tested your backups lately? Maybe cost-cutting has forced you to use tapes longer than you would like. Spend the time to do some real

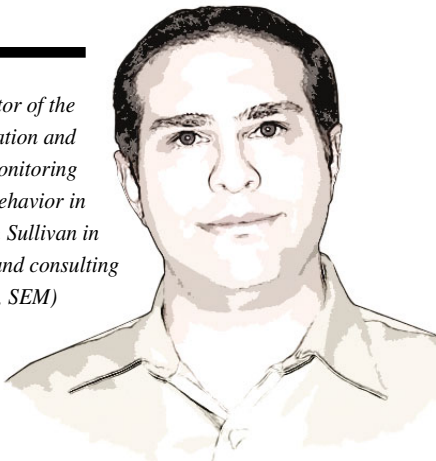
testing of backups: Delete and then recover some email and a few files. Buying a new tape is a lot less expensive than rebuilding systems from scratch.

Check old accounts and new roles. Lots of organizations made personnel adjustments over the past few months. On top of losing personnel, new and existing personnel often take on new responsibilities. During these times of flux, security may have been relaxed and rights and roles assigned haphazardly just to get a job done. Now is the time to spend some time evaluating key accounts. Did you really remove those old accounts? Did some users get too many new rights when they transitioned roles? Ensuring that rights and accounts are in order can prevent a disgruntled employee from doing damage or an overzealous employee from inadvertently causing damage.

These are just a few simple areas that many organizations let slide during times of distress. It should be an easy financial case to make to upper management and can make the security team heroes by improving the security posture of the organization without spending more money. ■

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OPINIONS

INFO-TECH • INSIGHT

One Laptop, Please; Hold The Bloat

Recently, I had to buy a new laptop. “Had to” is a bit of a stretch, I suppose, as my existing machine was serviceable, but it was older and slower and the battery just didn’t have the legs anymore. So I’d convinced myself that a new one was in order. As someone who analyzes the IT market for a living, it probably comes as no surprise that I did some homework before heading out to pick up my new machine. I knew what features I wanted and which ones I didn’t, which brands and models I’d consider and those that I wouldn’t.

In the end, I selected a machine from a tier-one Wintel vendor that was smaller and lighter than the one I had been using yet was still faster, had greater memory and disk space, and ran for nearly twice as long on a charge of the standard battery. Isn’t Moore’s Law grand? I returned home pleased with my new purchase, ready to spend the rest of the day patching and patching some more to ensure I had the latest BIOS, drivers, and security updates.

This is where my issue begins. On the one hand, I appreciate order and fulfillment cycles for mass-marketed products. I appreciate that enhancements continue to be developed while the computer sits first in

the manufacturer’s warehouse, then in the retailer’s distribution center, in the store-room, and finally on the shelf. On the other hand, some of the updates and patches that need to be installed seem to be older than the machine’s development cycle was long. The whole patching process has become pretty streamlined, if not time-consuming and repetitive, however, so I only mildly begrudge the process.

Losing Valuable Hard Drive Real Estate

To a significantly greater degree, I begrudge the ever-increasing amount of bloatware that manufacturers seem to be cramming onto new machines these days. Cracking the lid and powering on my shiny new machine, I was confronted with a desktop that was littered with shortcuts for pretty much every type of software imaginable.

There were games. There was an anti-malware and security package. There was disk defragmentation software, a Registry cleaner, and two—that’s right, two—different productivity suites all conveniently pre-installed for my entertainment and productivity needs. The rub with all of it is that not only did I not want or need any of this free software (I already own licenses for



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my own anti-malware and productivity software, and games are the last thing I want on a work machine), but none of it was actually free. Most of it was trialware with restricted-use licensing that meant, in the end, I’d have to pay for the software or have to spend time uninstalling it.

Now, I understand the manufacturers’ incentive for cramming as much of this stuff onto machines as they possibly can—they make decent money from the vendors of this software (that’s right, the software

vendors pay for the privilege of having their demo software installed). Money that directly impacts the profitability of every machine they sell and therefore, in some way, the price of every machine you buy. Don’t get me wrong, I don’t like it, but I do understand it.

Unnecessary Complication

The stuff I neither like nor understand, though, is manufacturer bloatware—those system utilities that replicate and, in theory, improve upon native capabilities of the operating software.

Power managers (to theoretically allow for more efficient management of a laptop’s battery power), presentation managers (to supposedly facilitate the connection of external displays), and networking managers (to hypothetically ease connection to wired and wireless networks) are de rigueur on notebooks these days. And from what I can tell, this software offers no additional value and can instead impede functionality. On my machine, until I disabled the manufacturer’s network manager and let the OS just do the job, I couldn’t connect to my wireless network no matter what I tried.

Greater Or Lesser Of Two Evils?

A colleague of mine recently went through a similar experience, only on a lark, he bought himself an Apple. When I sat down to compare notes with him, I regaled him with the story of my trials and tribulations. “You know,” he said, a benign smirk upon his face, “there wasn’t any of that stuff on my new machine.” Now, I’m the last thing from an Apple fan-boy, but just maybe they’re on to something here. ■

Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry. Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

To list your company and products, call (800) 247-4880.

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Our California service center is dedicated to provide outstanding services to our customers; we complete most RMA repairs within seven working days.

Full Range Product Series

In addition to our excellent services, we offer a full range of products such as LCD KVM drawers, LCD display panels, keyboard drawers and KVM switches to meet our customers' needs.

Please contact our distributors for product inquiries.

AUSTIN HUGHES®